

国 際 協 力 機 構

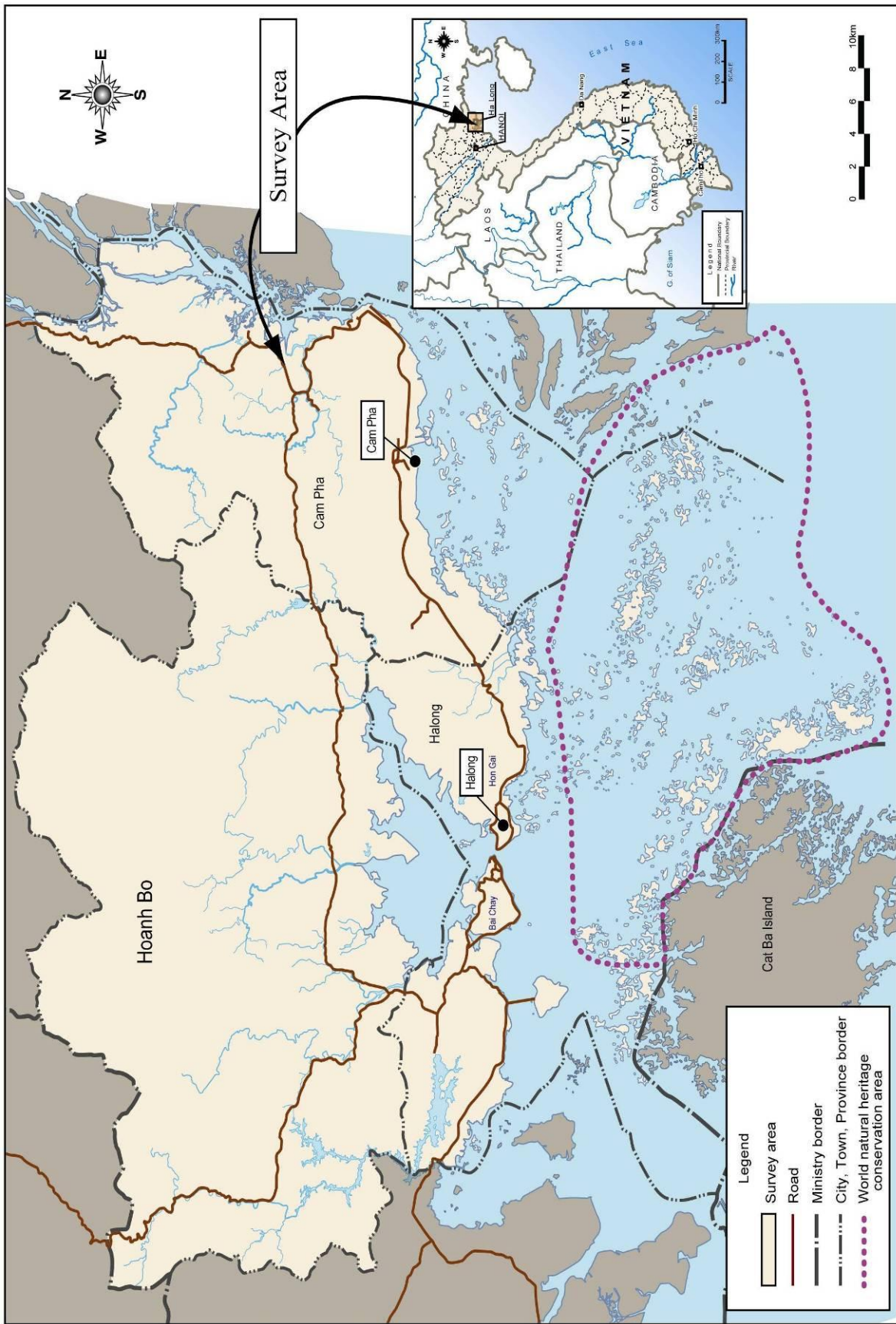
ベトナム国  
ハロン湾環境保全プロジェクト

業務完了報告書  
(2012年度)

平成25年2月

日 本 工 営 株 式 会 社





プロジェクト位置図



# ベトナム国ハロン湾環境保全プロジェクト

## 業務完了報告書(2012年度)

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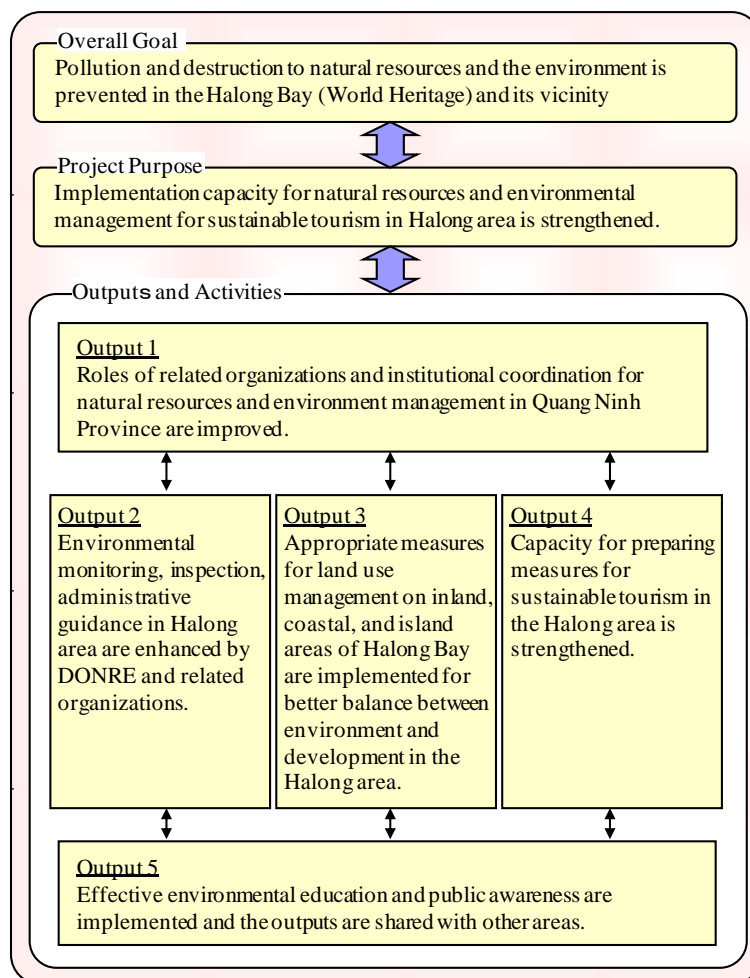
## 第1章 業務の概要

### 1.1 業務の目的

ハロン湾環境保全プロジェクト（以下「本プロジェクト」）は、ハロン湾の環境保全という最終目標に向けて、ハロン地域の持続可能な観光のための自然資源及び環境資源管理の実施能力が強化されるということを目的とする。この目的を達成するため、1)モニタリング、インスペクション及び行政指導の強化、2)環境と開発のバランスを維持し適切な土地利用対策の実施、3)ハロン地域における持続可能な観光の政策立案の強化、4)環境教育（EE）及び広報（PR）については、JICA専門家チーム（JET）の技術サポートによる関連機関との連携において、主にクアンニン省天然資源環境局（DONRE）のカウンターパート（C/P）組織が実施している。

### 1.2 業務の基本方針

本プロジェクトはキャパシティ・ディベロップメント（CD）を通じた持続可能な観光のための環境および資源管理能力向上を目標とした技術協力プロジェクトであり、PDM構成要素間のロジカル・フレームと個人・組織・社会制度各レベルの展開が極めて重要となる。PDMの構成は、下に示すとおりである。



出典： Prepared by JET based on R/D for the Project, 12th March, 2010

図 1-2-1 PDM の構成

## 1.3 業務の内容

### 1.3.1 成果1の業務内容

#### (1) 環境管理合同調整委員会(CEM)による年間活動計画の承認及び進捗確認

CEM 会議のメンバーは、全プロジェクト期間を通じて委員長を含む 10 名が交代したが、その他は 2010 年 4 月 14 日の第 1 回 CEM 会議において公告されたメンバーと同じである。現在の CEM のメンバーを下表に示す。2012 年度は、2012 年 11 月 16 日に 2012 年度の活動計画の確認に関する第 6 回 CEM 会議、及び 2012 年 12 月 13 日に 2012 年度活動の確認及び全プロジェクト活動結果の承認に関する第 7 回 CEM 会議が実施された。

表 1-3-1 CEM メンバーリスト(2012 年 12 月現在)

Name	Position in CEM	Position and Organization
(1) Mr Do Thong (Apr. 2010 - Mar. 2012)	Standing Head of CEM	Vice Chairman, Quang Ninh Provincial People's Committee (QN PPC)
(1) Mr Dang Huy Hau (Apr. 2012 - )	Standing Head of CEM	Vice Chairman, QN PPC
(2) Mr Nguyen Manh Cuong	Standing Deputy Head of CEM	Director, Department of Natural Resources and Environment of QN PPC (QN DONRE)
(3) Mr Luong Y Duoc (Apr. 2010 - Jun. 2012)	Deputy Head of CEM	Deputy Director General, QN DONRE
(3) Mr Hoang Danh Son (Sept. 2012 - )	Deputy Head of CEM	Deputy Director General, QN DONRE
(4) Ms Nguyen Thi Thu Thuy	Secretary	Deputy Head, Sub-Department of Environmental Protection, QN DONRE
(5) Representative of JICA	Member	JICA Vietnam Office
(6) Mr Hoang Danh Son (Apr. 2010 - Sep. 2012)	Member	Director, Department of International Cooperation of Science and Technology, Vietnam Environment Administration, MONRE
(6) To be named (Oct. 2012 - )	not yet assigned	-
(7) Mr Dao Van Hoa	Member	Deputy Director, QN Department of Planning and Investment
(8) Mr Pham Van Chinh (Apr. 2010 - Jul. 2011)	Member	Deputy Director, QN Department of Finance
(8) Mr Mac Thanh Luan (Aug. 2011 - )	Member	Deputy Director, QN Department of Finance
(9) Mr Hoang Quoc Thai	Member	Deputy Director, QN Department of Culture, Sport, and Tourism
(10) Mr Nguyen Hai An	Member	Deputy Director, QN Department of Construction
(11) Mr Hoang Duc Minh (Apr. 2010 - Jul. 2011)	Member	Deputy Director, QN Department of Education and Training
(11) Mr Ngo Van Hoi (Aug. 2011 - )	Member	Deputy Director, QN Department of Education and Training
(12) Mr Dang Hung	Member	Deputy Director, QN Department of Transportation
(13) Ms Nguyen Thi Lieu (Apr. 2010 - Jul. 2012)	Member	Deputy Director, QN Department of Industry and Trade
(13) Mr Pham Ngoc Thuy (Aug. 2012 - )	Member	Deputy Director, QN Department of Industry and Trade
(14) Mr Ha Van Giang	Member	Deputy Head, Sub-Department of Technology and Aqua Resources, QN Department of Agriculture and Rural Development
(15) Mr Nguyen Van Duong	Member	Deputy Head of Department, Environmental Police Department, QN Provincial Police
(16) Ms Huynh Thi Mai Anh (Apr. 2010 - Jul. 2011)	Member	Vice Chairperson, QN Provincial Women's Union
(16) Ms Nguyen Thi Vinh (Aug. 2011 - )	Member	Vice Chairperson, QN Provincial Women's Union
(17) Mr Hoang Ba Nam	Member	Deputy Secretary, QN Provincial Youth Union
(18) Mr To Xuan Thao (Apr. 2010 - Jul. 2012)	Member	Deputy Director, Halong Bay Management Department
(18) Mr Nguyen Manh Ha (Aug. 2012 - )	Member	Deputy Director, Halong Bay Management Department
(19) Mr Vu Van Hop (Apr. 2010 - Jul. 2012)	Member	Vice Chairman, Halong City People's Committee
(19) Mr Hoang Quang Hai (Aug. 2012 - )	Member	Vice Chairman, Halong City People's Committee

Name	Position in CEM	Position and Organization
(20) Mr Nguyen Manh Tuan (Apr. 2010 - Jul. 2011)	Member	Vice Chairman, Hoanh Bo District People's Committee
(20) Mr Trieu Hai (Aug. 2011 - )	Member	Vice Chairman, Hoanh Bo District People's Committee
(21) Mr Tran Van Hung	Member	Vice Chairman, Cam Pha Town People's Committee
Total: 21 members		

注：(\*) Project Management Board members

出典：Decision No.2202/QD-UBND, on Adjustment of members of the Steering Committee for Environmental Management (CEM) for the Technical Cooperation Project for “Environmental Protection in Halong Bay”, 14th July, 2011

## (2) WG による活動実施管理ならびに進捗確認

本プロジェクトにおいては4つのWGが活動の実務を実施し、JICA 専門家(JET)が支援を行った。合計26名のWGメンバーは、下表に示すとおりである。各WGはJETの指導の下でディスカッション会議、トレーニング、講義、OJT、本邦研修等を精力的に実施した。

表 1-3-2 WG メンバーリスト(2012年12月現在)

Name	Position in WG	Position and Organization
<b>1. Environment Management Group (Working Group 1: WG-1)</b>		
(1) Ms Do Thi Ni Tan	Head of WG-1	Head, Environmental Monitoring and Analysis Division, Environmental Monitoring and Analyzing Center, QN DONRE
(2) Ms Nguyen Thu Huyen	Member	Head, Section of Administration, Sub-Department of Environmental Protection, QN DONRE
(3) Mr Tran Thanh Tung	Member	Expert, Division of Inspection, QN DONRE
(4) Mr Nguyen Van Duong (Apr. 2010 - Jun. 2011)	Member	Deputy Head of Department, Environmental Police Dept., QN Provincial Police
(4) Mr Do Dinh Thach (July. 2011 - )	Member	Head of Division No.4, Environmental Police Department, QN Provincial Police
(5) Ms Nguyen Thi Thuy Hang	Member	Expert, Department of Natural Resources and Environment, Halong City PC
(6) Mr Pham Tuan Cuong	Member	Expert, Department of Natural Resources and Environment, Yen Hung District PC
(7) Mr Pham Van Cung (Jul. 2012 - )	Member	Head of Environmental Control Section, Sub-Department of Environmental Protection, QN DONRE
<b>2. Land Use Management Group (Working Group 2: WG-2)</b>		
(1) Mr Nguyen The Thuc	Head of WG-2	Deputy Head, Division of Planning and Financing, QN DONRE
(2) Ms Nguyen Thi Mai Anh	Member	Expert, Division of Land Registration, QN DONRE
(3) Mr Nguyen Nhu Hanh	Member	Expert, Section of Appraisal and License, Sub-Department of Environmental Protection, QN DONRE
(4) Mr Nguyen Van Thanh	Member	Head, Department of Natural Resources and Environment, Halong City PC
(5) Ms Dang Thi Thinh (Apr. 2010 - Jul. 2012)	Member	Expert, Department of Natural Resources and Environment, Cam Pha City PC
(5) Mr Nguyen Tien Nhu (Aug. 2012 - )	Member	Deputy Head, Department of Natural Resources and Environment, Cam Pha Town PC
(6) Mr Trieu Hai (Apr. 2010 - Jul. 2011)	Member	Head, Department of Natural Resources and Environment, Hoanh Bo District PC
(6) Ms Dau Thi Thanh Huyen (Aug. 2011 - )	Member	Expert, Department of Natural Resources and Environment, Hoanh Bo District PC
(7) Mr Pham Trung Nghia	Member	Officer, Department of Environment, Vietnam National Coal - Mineral Industries Group
<b>3. Environment and Tourism Resources Management Group (Working Group 3: WG-3)</b>		
(1) Ms Tran Thi Minh Thu (Apr. 2010 - Jul. 2012)	Head of WG-3	Deputy Head, Section of Appraisal and License, Sub-Department of Environmental Protection, QN DONRE
(1) Mr Tran Van Thuan (Aug. 2012 - )	Head of WG-3	Deputy Head, Sub-Department of Sea and Islands, QN DONRE
(2) Ms Tran Thu Ha	Member	Expert, Division of Water Resources and Meteorology, QN DONRE
(3) Ms Nguyen Thi Thu Trang	Member	Expert, Sub-Department of External Relations and Economy, QN Department of Planning and Investment
(4) Ms Nguyen Thi Van	Member	Deputy Director of Tourism Communication and Promotion, QN Department of Culture, Sport and Tourism
(5) Mr Le Lam Tuan	Member	In charge of Environmental Management, Department, Halong Bay Management Department
(6) Ms Dao Thi Hau (Apr. 2010 - Jun. 2011)	Member	Expert, Division of Water Resources and Meteorology, DONRE
(6) Mr Vu Nam Phong	Member	Director of Environmental Monitoring and Analyzing Center, QN DONRE

Name	Position in WG	Position and Organization
(Aug. 2011 -)		
<b>4. Environmental Education and PR Group (Working Group 4: WG-4)</b>		
(1) Mr Pham Quang Vinh	Head of WG-4	Deputy Director, Sub-Department of Environmental Protection, QN DONRE
(2) Mr Manh Hong Hai	Member	Deputy Head, Sub-Department of Secondary Level Education, QN Department of Education and Training
(3) Ms Dang Thi Hai Yen	Member	Head, Section of Appraisal and License, Sub-Department of Environmental Protection, QN DONRE
(4) Ms Dinh Hai Ha	Member	Expert, Sub-Department of Environmental Protection, QN DONRE
(5) Ms Nguyen Thi Thu Ha	Member	Head, Department of Youth, Rural, Urban Areas and State Employees, QN Provincial Youth Union
(6) Ms Nguyen Thi Binh Thin	Member	Deputy Head, Department of Communication and Education, QN Provincial Women's Union
Total: 26 members		

注：(\*) Project Management Board members

出典：Decision No.2201/QD-UBND, on Changing of members of the Counterpart Team for the Technical Cooperation Project for “Environmental Protection in Halong Bay”, 14th July, 2011

### (3) プロジェクト管理委員会 (PMB) とのレギュラーミーティングの開催

「ベ」国側 C/P と JET の間の円滑かつ良好なコミュニケーションのために、PMB と JET は毎週月曜日にレギュラーミーティングを開催することとした。プロジェクト開始から 2012 年 12 月までに、合計 77 回のレギュラーミーティングを開催した。

### (4) WG-3 及び WG-4 メンバーに対する本邦研修

本研修は、日本の国立公園/観光地における観光資源の管理施策、エコツーリズム等を活用した持続可能な観光に係る取組み、地方自治体や民間による持続可能な観光振興策、関連する環境教育・広報活動の事例、といった知見を得る事を目的とした。本研修により得られる知識と経験は、本プロジェクトの成果-4 および成果-5 におけるすべての成果に有用であった。

## 1.3.2 成果 2 の業務内容

### (1) WG-1 の全体業務内容

成果-2 は、環境モニタリングと汚染源管理の二つの要素からなる。この二つの要素の相互作用を発展させるために、WG-1 と JET は活動の特徴と成果を考慮した二つの要素に WG-1 の活動を分けることとした。

### (2) WG-1A : 環境モニタリングの実施のための作業計画

WG-1A の主な課題は、以下の 4 つである。

- i) ハロン地域における環境汚染の特徴の識別 (活動 2-1)
- ii) 統合モニタリング実施計画の進展 (活動 2-2)
- iii) 環境モニタリングにおける研修の管理 (活動 2-4a)
- iv) 統合モニタリング実施計画の実施 (活動 2-5a)

#### 1) ハロン地域における環境汚染の特徴の識別

ハロン湾における汚染の特徴について、既存の情報を収集することにより把握した。収集した情報ならびに水質及び底質調査結果は、ハロン湾の現況把握に使用した。

## 2) 統合環境モニタリング実施計画の進展

統合環境モニタリング実施計画の骨子案は、上記の活動の結果に基づいて作成する。この骨子案は、モニタリングプログラム、報告及び DONRE と関連機関での情報共有の提案を含んでいる。この中には、科学的かつ現実的な観点からハロン湾の自然資源及び環境の質に影響を及ぼす要因に限らず、ハロン湾の自然資源及び環境の質の現況を把握するためのモニタリング位置、パラメータ及び頻度が含まれる。骨子案の作成を通して、持続可能な観光及び海岸生態系保全についてのハロン湾の環境現況の評価や、工場排水、生活排水、観光、海上輸送及び漁業といった汚染源のインパクトについて、環境指標によって確認した。

## 3) 環境モニタリングにおける研修の管理

WG-1 の研修のニーズ及び統合モニタリング実施計画に参画している関連職員を考慮し、研修及び現場研修 (OJT) については、JET と地元専門家が計画立案し実施した。

## 4) 統合モニタリング実施計画の実施

統合モニタリング計画案は、OJT・研修、経験、作成された計画案の試験的な実施を通じて得られた予想される利益といった結果に基づき、必要に応じて再検討し修正を行う。統合モニタリング計画は、2011 年 3 月の CEM 会議において承認を得た後、第 2 年次と第 3 年次において着手される。

### (3) WG-1B : 汚染源管理の実施のための作業計画

WG-1B (汚染源管理) の主テーマは次の 3 つである。

- i) 汚染源情報 (汚染源マップを含む) (活動 2-6)
- ii) 環境検査および行政指導 (活動 2-3、2-4b、および、2-5b)
- iii) 環境汚染事故 (活動 2-7)

#### 1) 汚染源情報

本活動においては、汚染源インベントリー、および、簡易汚染源マップを作成する。

##### a) 汚染源インベントリー (活動 2-6)

インベントリーは工場、鉱山、畜産施設、病院、廃棄物処分場、下水処理場といった施設を対象とし、基本情報、施設の情報、排水の性状、環境管理データ等の各施設に関するデータ・情報を含むものとする。環境保護副部が作成した汚染源インベントリーを検討した結果、策定する汚染源インベントリーは次の二つを実施した。

- i) クアンニン・インベントリー
- ii) ハロン地区データシート

##### b) 簡易汚染源マップ (活動 2-6)

調査対象地域の簡易汚染源マップは各汚染源から排出される汚染負荷を地図上に表示した地理乗法である。これはハロン地区データシートを利用して開発される。この活動は第 2 年次に開始し、第 3 年次に継続された。

## 2) 環境検査及び行政指導

本活動は、以下の要素を含む。

- i) 年間検査実施計画の策定および承認 (活動 2-3)
- ii) 検査および行政指導に関する講義 (活動 2-4b)
- iii) 検査および行政指導の実施ならびに OJT (活動 2-5b)

### a) 環境検査年間実施計画書の策定および承認 (活動 2-3)

検査や行政指導に関係する各部署の現状における慣行・能力を明らかにするために、面談や質問票配布による調査を実施する。その後、検査・行政指導の年間実施計画書案を検討・作成する。この活動においては、汚染源インベントリーの結果、ならびに、現状の慣行や能力についての調査結果を利用し、検査実施の計画基準を策定する。年間実施計画書は、月間対象施設、検査項目、検査への参加者等を含む。

### b) 検査および行政指導に関する講義 (活動 2-4b)

WG-1B メンバーやメンバー所属部署の職員を対象として、環境検査、および、行政指導についての講義を開催した。

### c) 検査・行政指導の実践および OJT 他トレーニングの実施 (活動 2-5b)

年間検査実施計画書により、DONRE 検査課の通常業務として検査・行政指導が計画され実践される。日本専門家チームは必要に応じて OJT 他のトレーニングを実施することによってこの活動を支援する。この活動は3年間にわたって実施する。

## 3) 環境汚染事故 (活動 2-7)

第2年次において、調査地域における環境事故の情報・データを収集した。この情報は、第3年次において事故発生の原因を解明するために解析される。その後、調査地域の環境事故に対する防止対策が検討され、CEM に提案される。

### 1.3.3 成果-3 の業務内容

#### (1) WG-2 に係る年間活動計画

WG-2 に係る年間活動計画の作成に際して、WG-2 の活動のアプローチとして“ハロン湾沿岸環境保全回廊(Coastal Environmental Protection Corridor for Halong Bay)”を第2回ワーキンググループ協議で JICA 専門家チームより提案し、議論した。以下に示す WG-2 の活動アプローチはワーキンググループ協議における議論において WG-2 メンバーのコメントをもとに修正したものである。

#### (2) WG-2 の活動アプローチ

下図に示すように、ハロン地域における持続的な観光開発の実現に貢献する土地利用管理によるハロン湾の保全と共に、沿岸地域における経済開発による沿岸地域からハロン湾への環境圧力を最小化することを考慮する。上記の観点に基づき、WG-2 は成果-3 の活動として環境緩衝地域としての“ハロン湾沿岸環境保全回廊”に着目することとした。“ハロン湾沿岸環境保全コリドー”の暫定的な定義としては、“ハロン湾の環境



保全のための積極的な土地利用管理と開発を対象としたハロン湾の沿岸地域に沿った空間的な地域”とする。

ハロン湾沿岸環境保全コリドーの境界設定には以下の概念的な基準が考えられる。

- 海側：海岸線
- 陸側：環境緩衝域として海岸線からの適切な距離

詳細な基準については、インフラや道路の整備状況や地形条件などの関連事項を考慮した上で、今後のプロジェクトステージにて検討する。

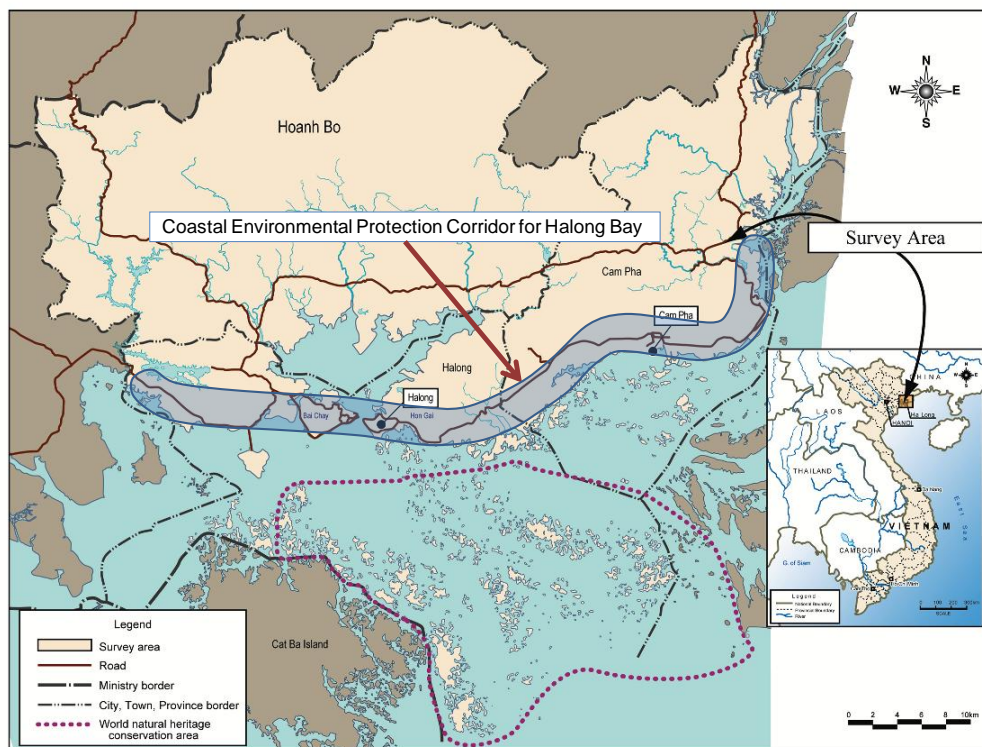


図 1-3-1 ハロン湾沿岸環境保全コリドーの概念図

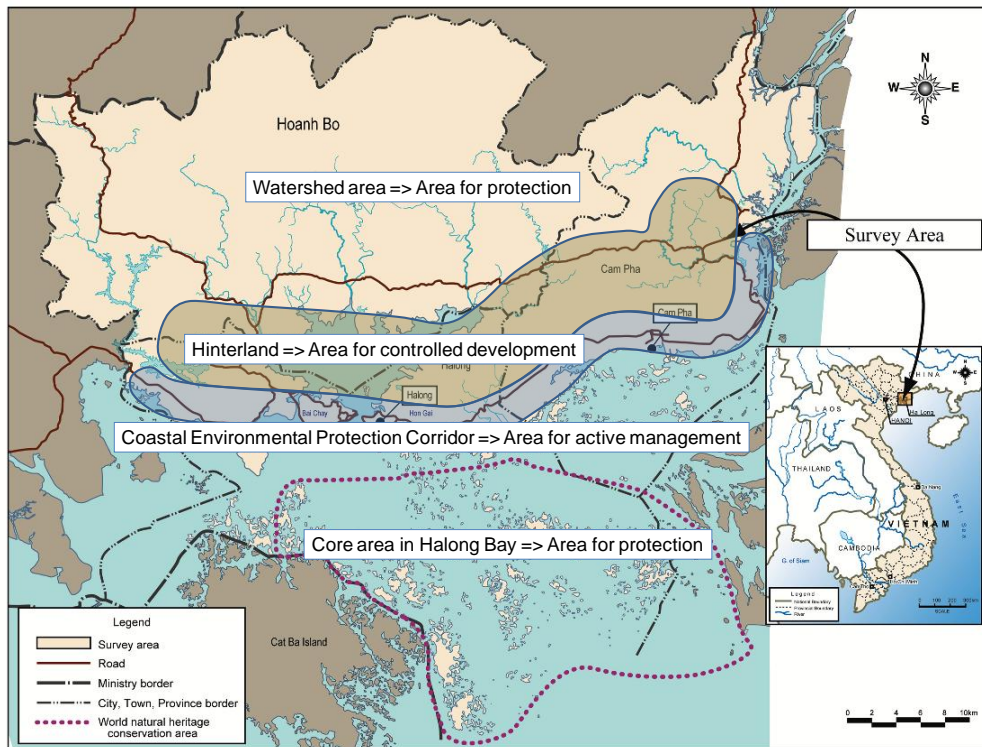


図 1-3-2 ハロン湾沿岸環境保全回廊および他地区の役割

成果-3 での具体的な活動の検討に際して、ハロン湾保全のための土地利用管理の観点からビジョン、目標、戦略、及び施策を下図のように検討した。4つの施策のうち、2つの施策が成果-3の活動に関連している。

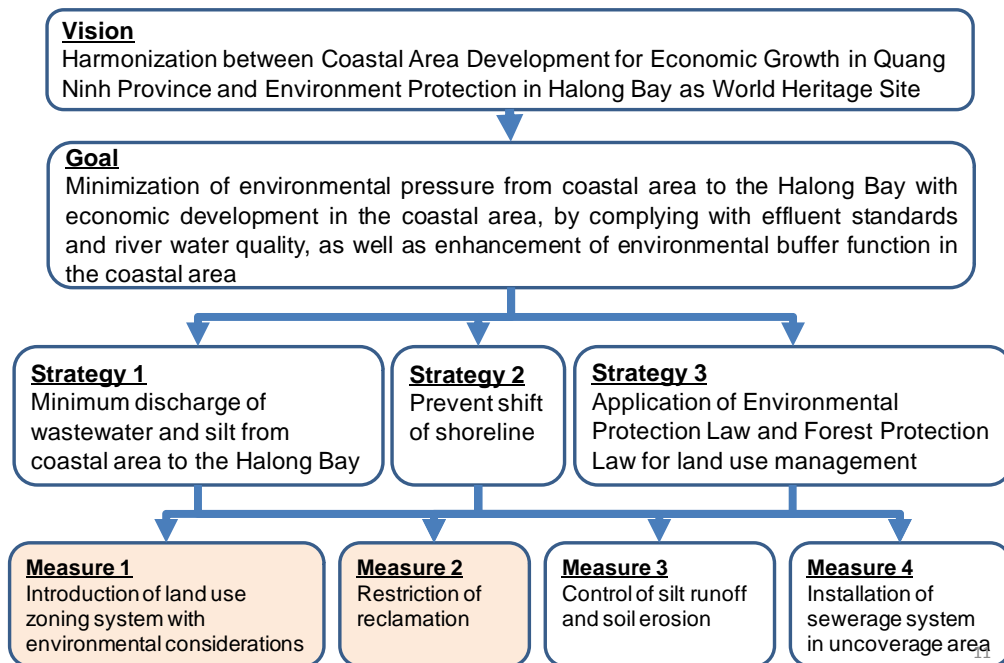


図 1-3-3 ハロン湾保全のための土地利用管理のためのビジョン、目標、戦略、及び施策

提案された施策に基づき、ハロン湾沿岸環境保全回廊はどうあるべきかについて、以下のように目標を設定することにより検討した。

- 1) ほぼ 100%の生活排水が排水基準を満たすように処理される。
- 2) 100%の産業排水が排水基準を満たすように処理される。
- 3) 沿岸開発に起因した沿岸地域からのシルト流入が抑制される。
- 4) ハロン湾沿岸環境保全回廊の全ての河川で河川水質基準が達成される。

上記の目標に基づき、提案された施策に基づく詳細な活動を下図のように検討した。特に WG-2 にて本プロジェクト中に実施する各活動の詳細は、今後のプロジェクトステージにて検討する。

成果-3 によるプロジェクト目的の達成イメージを下図に示す。土地利用管理に環境的な観点を取り込んでハロン湾の保全のための土地利用管理を実現するためには、WG-2 メンバーが通常行っている土地利用管理に係る業務の内容に基づいて、ハロン湾沿岸環境保全回廊が検討されることが重要である。ハロン湾沿岸環境保全回廊のプロジェクト期間中ならびにプロジェクト後の確実な実施のためには、ハロン湾沿岸環境保全回廊の各施策に係るアクションプランのプロジェクトでの作成と、CEM 及び QN PPC による承認が必要である。

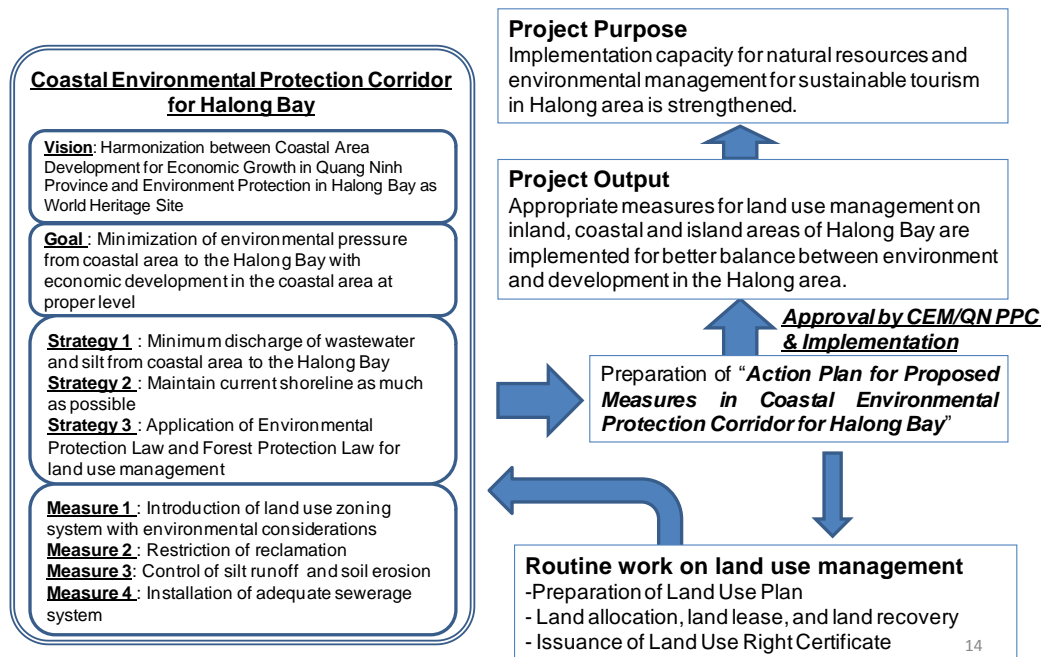


図 1-3-4 成果-3 によるプロジェクト目的の達成イメージ

ハロン湾沿岸環境保全回廊に係る提案された施策のアクションプランの暫定的な内容を以下に示す。

以下事項を提案施策について作成する。

- a) 目的および対象地域
- b) 施策の詳細な内容
- c) 計画、実施、および運用に係る詳細な手続きと活動

- d) 実施スケジュール
- e) 関連機関の役割と責任
- f) 費用と予算計画
- g) 運用時に想定されるリスクと対策
- h) モニタリングおよびフィードバック計画

### (3) トレーニング計画

WG-2 メンバーによる活動の十分な理解に基づく活動の円滑な実施を促進するための成果-3に係るトレーニング計画案を JICA 専門家チームが作成した。トレーニング計画案は第 2 回ワーキンググループ協議にて説明され、WG-2 メンバーのコメント等に基づき、下表のように改訂した。詳細なトレーニング計画は今後プロジェクトステージにて作成する。

表 1-3-3 成果-3 のトレーニング計画

<p>[ 1st Year ]</p> <p>(1) Environmental management measures in land use management of coastal area - Lectures on introduction of experience in Japan, possible measures to be applied</p> <p>(2) Introduction of Satellite image analysis on land use change and GIS, and Survey on actual situation of land use right certificate and land recovery - Lectures on introduction and effectiveness of the satellite image analysis and the survey, methodology of the analysis, lectures on introduction of GIS, etc. - Half-day participation of the field survey</p> <p>(3) Interpretation of the Analysis and Survey Results Lectures on how to interpret results of the satellite image analysis and the actual situation survey.</p>
<p>[ 2nd Year ]</p> <p>(4) Application of GIS in land use management - Features of GIS utilization in land use management, etc.</p> <p>(5) Land use zoning system with environmental considerations - Lectures o introduction of the land use zoning system in Japan, requirements to introduce and implement the system, etc.</p>
<p>[ 3rd Year ]</p> <p>(6) Environmental measures in reclaimed development area - Lectures on introduction of practices in Japan, potential measures to be applied, etc. - Half-day field observation and discussion on the sites where measures are required.</p> <p>(7) Environmental impacts and EIA on land reclamation - Lectures on environmental impacts by land reclamation, requirements for EIA on land reclamation, Japanese experiences on this topic, etc</p>

#### 1.3.4 成果 4 の業務内容

##### (1) WG-3 の年間活動計画

###### 1) 成果 4 のフレームワーク

本プロジェクトの PDM による成果-4 (WG-3) のフレームワークは WG-3 による期される成果と活動であり、以下に示すとおりである。

成果: ハロン地域の持続的な観光のための施策の立案能力が強化される。

活動:

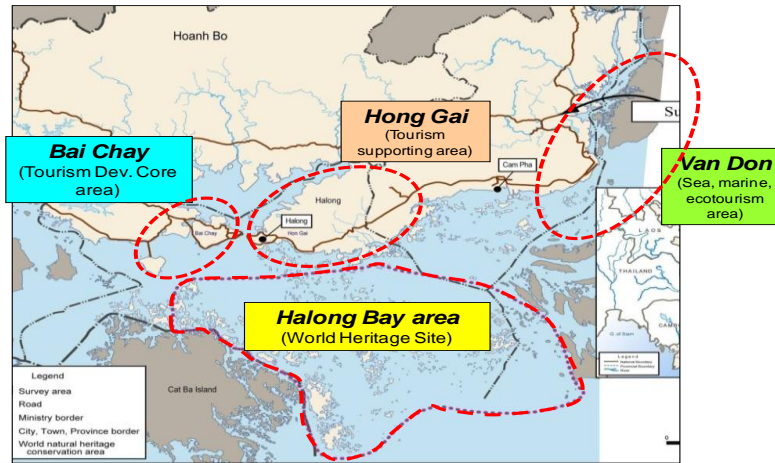
4-1: ハロン地域における環境および観光資源のデータベースを構築する。

4-2: 4-1 のデータベースおよび成果 2、成果 3 で得られる環境汚染マップ、土地利用特性等の情報を活用し、持続可能な観光の阻害要因、発展ポテンシャル等の解析を行う。

4-3: 4-2 の解析に基づき、持続可能な観光のための施策の検討を行う。

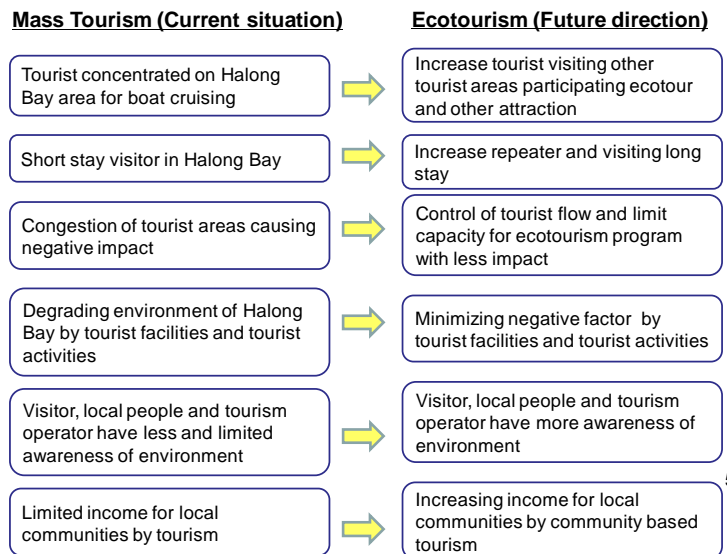
(2) プロジェクトでの環境・観光資源の管理のコンセプト

成果 4 の成果および活動を踏まえ、“持続可能な観光”の定義、概念、アプローチなどについて、JICA 専門家より WG メンバーに対してプレゼンテーションを行い、メンバーとそれらの内容に関して、議論を行った。ハロン湾およびその周辺地域含むクアンニン省の観光地域の現状について、JICA 専門家により予備的な分析作業を実施した後、理念 (Vision)、目標 (Goal)、目標達成のための設定指標、観光開発のための戦略を検討し、WG-3 のディスカッションミーティングでメンバーとの協議を行い、それらの提案コンセプトについて、メンバーから合意を得た。以下に合意した計画コンセプトを示す。



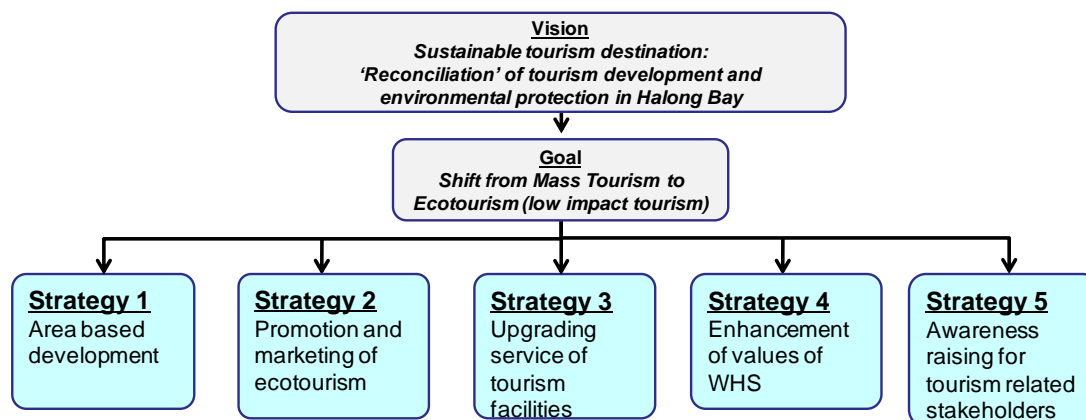
出典：JET

図 1-3-5 クアンニン省の観光開発の方向性



出典：JET

図 1-3-6 マスツーリズムとエコツーリズム



出典：JET

図 1-3-7 クアンニン省の観光開発のための理念、目標、戦略

表 1-3-4 全体目標達成のための基準指標および想定個別指標

Targets for Goal	Conceivable indicator
(1) <b>Tourist and tourism activities</b>	- Increase no. of repeater to Quang Ninh Province - Develop no. of Eco and community-based tour - Increase no. of ecotour participant - Increase no. of nature and ecotour guide
(2) <b>Tourist facilities</b>	- Increase no. of hotel registered to eco hotel - Meeting required level of treated wastewater from all registered hotel - Upgraded service of hotel and restaurant to meet requirement
(3) <b>Environmental protection and resource management</b>	- Sea water transparency - Expansion of mangrove planting area - Control visitor flow at tourist site
(4) <b>Local community</b>	- Increase no. of local community engaged in tourism activities - Increase income of local communities from tourism activity
(5) <b>Tourism promotion and marketing</b>	- Increase no. of annual promotion event activities - Achieved no. of target visitor and segment as planned
(6) <b>Environmental awareness and education</b>	- Conducted environmental protection and conservation activities - Enhanced awareness of cleanness and environment protection for visitor and local communities in Halong Bay - Increase no of school having program of environmental education and important value of Halong Bay

出典：JET

WG-3 のための活動計画は提案した観光開発コンセプトを踏まえた上で実施する。全体目標(Goal)達成のための基準指標および想定される個別指標は WG-3 の活動を通じて、具体的な指標、数値などの設定を行うこととする。

### (3) WG-3 の年間活動計画

WG-3 の活動内容を以下に示す。

#### a) 自然・観光資源の既存情報、データの収集、分析

- 環境・観光資源の既存レポート、データ、情報のレビュー（2010年7月～10月）
  - 観光関連計画、観光資源のレポート、データ、情報の収集リストの作成
  - 関連機関への入手必要資料（レポート、データ、情報）の依頼
  - WGメンバーへの資料のレビューポイントの説明
  - 収集レポート、データ、資料のレビュー
  - レビュー作業結果の取りまとめ

- 観光資源、観光関連施設の現地調査(2010年9月～11月)
  - WGメンバーへの現地調査の概要説明
  - 現地調査の対象エリア、サイトの選定
  - 調査実施計画の作成
  - 現地調査の実施
  - 現地調査レポートの作成およびWGメンバーでの調査結果に関する協議
- ベースライン調査の準備および実施支援(再委託調査)(2010年8月～2011年3月)
  - ベースライン調査の概要説明
  - WGメンバーによるベースライン調査のTORのレビュー及びコメント
  - 質問票(案)の作成
  - ベースライン調査の実施支援およびモニタリング
  - ベースライン調査結果のレビュー
- 自然・観光資源の分類およびインベントリーの作成(2010年11月～2011年2月)
  - 収集した自然・観光資源の分類手法の決定
  - インベントリーフォームの作成
  - インベントリーの作成
  - インベントリーデータの評価
- b) 自然・観光資源のデータベースの開発(2011年2月～3月)
  - データベース開発の基本方針及び方策の構築
    - インベントリーデータを活用したデータベースシステム開発の検討
    - データベースシステム開発のためにTORの作成
- c) WGメンバーのためのトレーニングプログラム(2010年10月～11月、2011年2月～3月)

トレーニングプログラムの内容は後述の2.5.3(1), 6)を参照。

### 1.3.5 成果-5の業務内容

#### (1) プロジェクトの環境教育と広報活動のコンセプト

プロジェクトの環境教育と広報活動は、意識啓発を行いながら、関係者を実施の活動に巻き込むために、PDMに沿って、計画と実施を行い、既存の情報と教材の活用と他のワーキンググループの成果(成果-2、3、4)を環境教育と広報活動に活用する。WG-4の活動計画<AOP>は、一連の議論を経て作成された。

#### (2) WG-4の第一年次活動計画<AOP>の内容

プロジェクトの第一年次に実施する活動は、次のとおり。

- 環境教育活動の現状把握(環境教育に係る意識や活動についてのベースライン情報のレビューを含む)
- 環境教育と広報活動の戦略の検討
- プロジェクトのラウンチング・イベントの開催
- 環境教育と広報活動に係るコミュニティ向け教材の開発

- 環境教育と広報活動に係るキャンペーンやイベント、ワークショップの開催

#### 1) 活動計画内容

- 目標
- 戦略
- 活動
- キャパシティ・ディベロップメント
- 指標及び数値目標レベル
- スケジュール
- 予算配分

#### 2) 目標

プロジェクトの環境教育活動及び広報活動の目標は以下のとおりである。

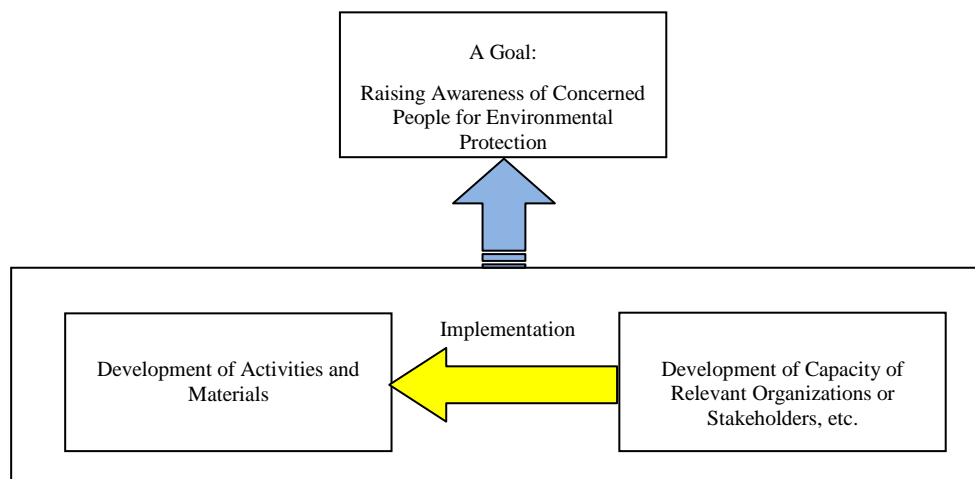


図 1-3-8 活動及び関係組織の能力の関係

#### 3) 戦略

目標を達成するために5つの戦略を以下の通り策定した。

- Strategy 1: イメージの統一
- Strategy 2: 意欲向上
- Strategy 3: 魅力的なデザインの積極的活用
- Strategy 4: マスメディアの評価
- Strategy 5: 自発的な環境教育活動及び広報活動の評価

#### 4) 活動

上記の戦略に基づき以下の活動が計画された。

- Activity 1: ロゴ及びスローガンのコンペティション



- Activity 2: イベント及びサブパイロットプロジェクト(SPP)
  - Events: Clean-Up World, World Heritage Day of Halong Bay
  - SPP1: セッキー板を用いた環境教育活動及び広報活動
  - SPP2: 企業に向けた環境教育活動及び広報活動
  - SPP3: コミュニティに向けた環境教育活動及び広報活動
- Activity 3: マスメディアを通じた広報活動：ウェブサイトの活用及び定期的なプレスリリースの発行

#### 5) スケジュール

WG-4 の活動スケジュールを以下の図に示す。

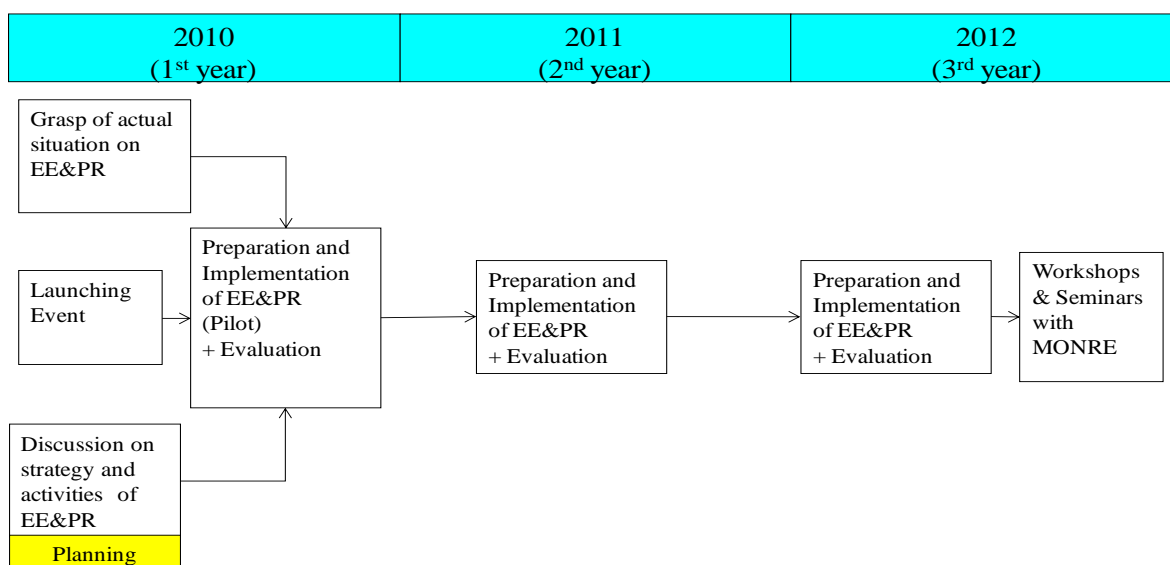


図 1-3-9 WG-4 の活動スケジュール

#### 6) 予算分配

再委託作業及びローカル専門家に対する予算が確保される。再委託作業の主な内容は以下の通り

- A. ロゴ及びスローガンのコンペティション
- B. イベント及びサブプロジェクト：ベースライン調査、環境教育教材作成
- C. マスメディアを通じた広報活動及びウェブサイトの発展

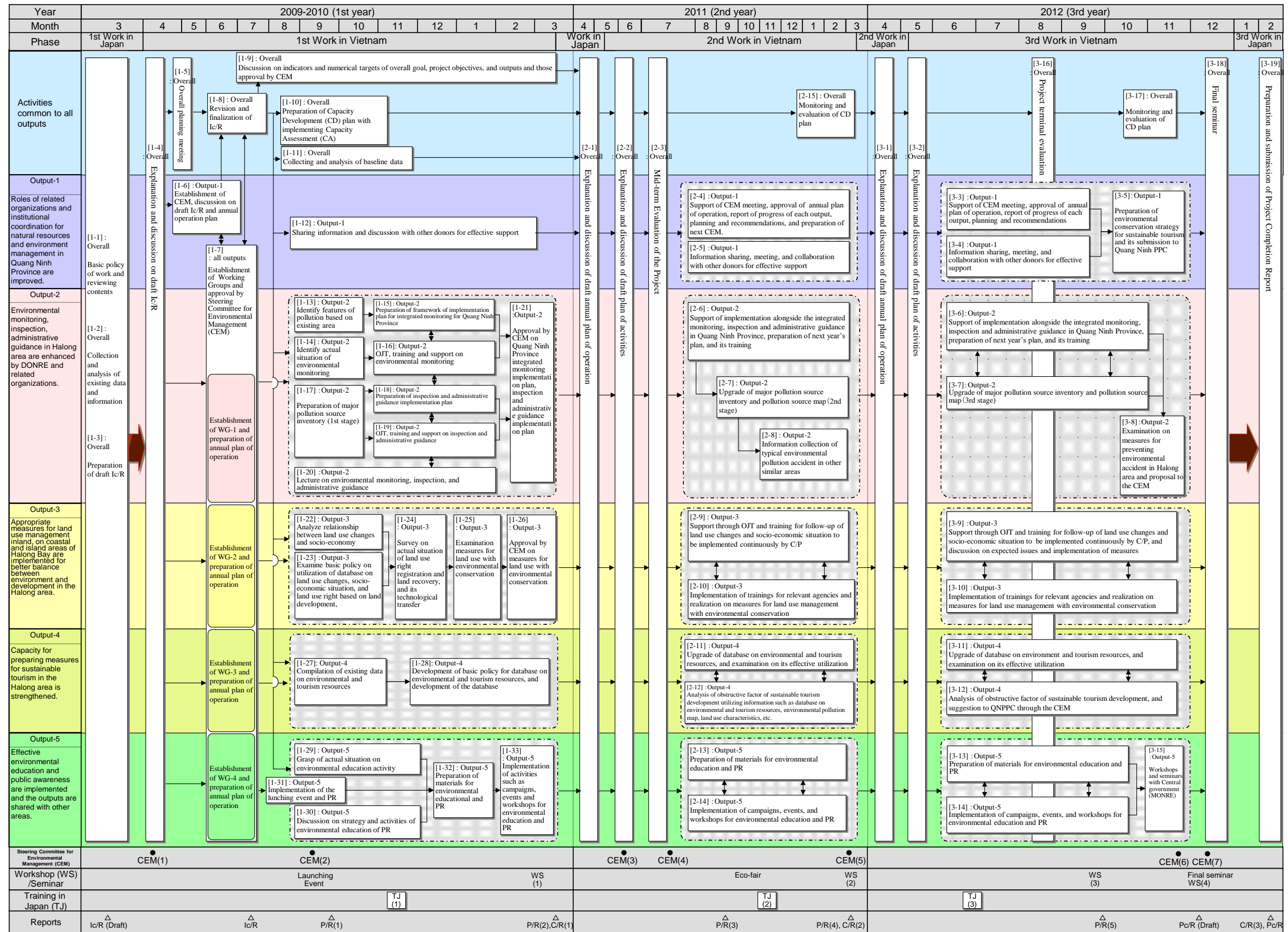
WG-4 のディスカッションミーティングを通して、ウェブサイトの設置は予算を考慮し 2011 年に行う。



## 第2章 業務の実施方法

### 2.1 全体作業フロー及び業務実施人月表

本プロジェクトの全体作業フローを図 2-1-1 に、要員計画を図 2-1-2 に示す。



Ic/R:Inception Report, P/R:Progress Report, C/R:Completion Report, Pc/R:Project Completion Report, CD:Capacity Development, WS:Workshop, TJ:Training in Japan

図 2-1-1 ワークフロー



## 2.2 当初計画との変更点とその理由

2012年度における当初計画からの変更は以下のとおりである。

同変更の内容とその理由について、以下に示す。

- プロジェクト運営上の理由による要員計画の変更

### 2.2.1 要員計画の変更

プロジェクトの進捗および運営体制等を勘案し、2012年度中に行われた要員計画の変更は以下のとおりである。以下に関する契約額の変更はない。

変更の概要	変更の内容	変更の理由
業務従事者の 現地作業人月 の増加  岩井陽一（環 境管理（総 括））	<p>【変更前】</p> <p>2011年5月～6月（60日間） 2011年9月～11月（60日間） 2012年2月～3月（38日間） 2012年5月～6月（37日間） 2012年8月～9月（45日間） 2012年11月～12月（45日間） 計：285日間(9.50MM)</p> <p>【変更後】</p> <p>2011年6月～8月（60日間） 2011年9月～11月（60日間） 2012年2月～3月（38日間） 2012年5月～6月（47日間） 2012年8月～9月（50日間） 2012年11月～12月（45日間） 計：300日間(10.00MM) （注：0.50MM増加）</p>	<p>対ベトナム円借款ロングリストにあげられている「ハロン市環境衛生改善計画」との連携も含め、貴機構が展開している「都市水環境管理プログラム」の効果発現のための提案策定作業について、当初想定より、より具体的な提案の取り纏めと次フェーズへの提言作成が必要となった。</p>
業務従事者の 現地作業人月 の増加  青木智男（土 地利用管理）	<p>【変更前】</p> <p>2011年5月～7月（60日間） 2011年11月～12月（35日間） 2012年2月～3月（30日間） 2012年5月～7月（45日間） 2012年7月～9月（55日間） 2012年10月～12月（60日間） 計：285日間(9.50MM)</p> <p>【変更後】</p> <p>2011年5月～7月（60日間） 2011年11月～12月（35日間） 2012年2月～3月（30日間） 2012年5月～7月（45日間） 2012年7月～9月（70日間） 2012年10月～12月（60日間） 計：300日間(10.00MM) （注：0.50MM増加）</p>	<p>対ベトナム円借款ロングリストにあげられている「ハロン市環境衛生改善計画」との連携も含め、貴機構が展開している「都市水環境管理プログラム」の効果発現のための提案策定作業について、当初想定より、より具体的な提案の取り纏めと次フェーズへの提言作成が必要となった。</p>
業務従事者の 現地作業人月 の増加  木村剛（持続 可能な観光開 発）	<p>【変更前】</p> <p>2011年5月～6月（48日間） 2011年11月～12月（48日間） 2012年5月～6月（30日間） 2012年11月～12月（39日間） 計：165日間(5.50MM)</p> <p>【変更後】</p> <p>2011年5月～6月（48日間） 2011年11月～12月（48日間） 2012年5月～6月（30日間） 2012年7月～8月（39日間） 2012年11月～12月（30日間）</p>	<p>成果-4では、これまで観光に関する動向把握、阻害要因とポテンシャル分析、観光資源データベース開発、観光船向けのエコラベルのパイロットプロジェクトの実施、これからの観光開発の方向性に関する予備的検討等をWG-3メンバーとともに行い、今年度本格的に開始する持続可能な観光のための施策や戦略開発検討のためのベース構築を図ってきたが、以下の理由から、専門家の追加配置が望まれる状況である。</p> <p>(1)観光船向けのエコラベル導入のパイロットプロジェクト活動が予想を上回る反響を呼び、その早期導入に向けての気運が現地観光業者をはじめクアンニン省で高まっている。JETとしては、エコラベル活動は本来のプロジェクト活動の目的である「持続可能な観光の</p>

変更の概要	変更の内容	変更の理由
	計：195日間(6.50MM) (注：1.00MM増加)	ための施策や戦略開発」の一部に過ぎないとの位置付けであるが、エコラベル導入に向けてさらに検討し、具体的な提言を行う事はベトナム側の気運を維持し、かつ持続可能な観光のための施策、開発戦略の検討に向けての動機付けにもなると考えられる。また、エコラベル導入が持続可能な観光開発のための1つの施策と成り得るかという観点からの検討も重要な課題である。そこで、エコラベル導入に関するこれらの追加的活動を支援、指導する必要がある。 (2)クアンニン省では「クアンニン省観光開発計画(2011-2015)」の検討が進んでいる。本プロジェクトで策定する「持続可能な観光のための施策や開発戦略」の実施を担保するためには、この観光開発計画との整合性を図る必要がある。未だ同計画が策定過程であることから、同計画の動向を踏まえつつ、その理念を開発戦略に反映し、策定を進めていくために、専門家によるさらなる支援が必要となっている。
業務従事者の現地作業人月の増加 平田憲久(環境教育・広報)	【変更前】 2011年5月～6月(30日間) 2011年10月(30日間) 2012年2月～3月(30日間) 2012年6月～7月(30日間) 2012年11月～12月(30日間) 計：150日間(5.00MM) 【変更後】 2011年5月～6月(30日間) 2011年10月(30日間) 2012年2月～3月(30日間) 2012年6月～8月(47日間) 2012年11月～12月(30日間) 計：167日間(5.57MM) (注：0.57MM増加)	これまでに成果5で実施してきた様々な環境教育・広報活動の成果を踏まえ、各活動の連携と相乗効果を図る事を目的として、2012年2月、WG-4がクアンニン省PPCに対して、環境教育・広報活動に係るAssociationの設立に係る提案を行い、了承された。 同Associationは、2012年7月に設立され、同年8月に同Associationの立ち上げに係る活動が開始される予定である。 本活動は、当初想定していなかったものであるが、専門家チームの技術的な支援が必要とされることから、「環境教育・広報」専門家のアサイン追加が必要である。また、「JICA国際協力中学生・高校生エッセイコンテスト2011」の上位入賞者が本プロジェクトを視察し、環境教育・広報活動に参加する予定となったことから、その対応作業が必要となる(準備1日、当日対応1日、計2日)
業務調整団員の変更 齋藤哲也(業務調整/観光開発補助) 南 淳志(業務調整/環境モニタリング・分析補助)	【変更前】 齋藤哲也(業務調整/観光開発補助) 【変更後】 南 淳志(業務調整/環境モニタリング・分析補助)	クアンニン省天然資源環境部は、成果-2に係る統合モニタリング実施計画及びクアンニン省のモニタリング計画に則り、2012年8～9月、及び2012年11月にモニタリング計画を実施する予定だが、本時期の活動に伴いプロジェクト終了後も円滑なモニタリング活動を継続するため、クアンニン省天然資源環境部の環境モニタリング分析センターのラボの、同時期の実務状況のチェックを行う事が望ましい。このため、分析ラボ指導の経験を有する南を「業務調整/環境モニタリング・分析補助」として配置することとした。

## 2.3 2012年度の業務内容

### 2.3.1 成果-1：関連機関の役割及び機関調整

#### (1) 環境管理運営委員会 (CEM)会議の開催

2012年度は第6回CEM会議を2012年11月16日に開催し、プロジェクトの進捗状況の確認を行うと共に、終了時評価の結果についての報告がなされた。また2012年12月13日に第7回CEM会議が開催され、プロジェクト全体の成果に係る発表が行われ、全活動についてのCEMによる承認がなされた。

第6回ならびに第7回CEM会議の主な協議内容を表2-3-1に示し、それらの会議の協議議事録(M/M)を本報告書に添付した(添付資料-1及び添付資料-2)。さらに、プロジェ

クトの全成果を関係機関等に広く発表するために総括セミナーが2012年12月14日に開催された。総括セミナーで行われた協議等については添付資料-3に議事録を示す。

表 2-3-1 第6回及び第7回 CEM 会議の協議内容

No./Date	Theme	Major Discussion Points	Actions of C/P and JET
Sixth CEM Meeting  (16/Nov/2012: Meeting room in QN PPC)	- Discussion of the current progress, planned activities and approval of Progress Report (5) -Discussions of the results of the terminal evaluation	1) To consider the environmental indicators, wastewater treatment, and seabed conditions 2) To prepare a road map concerning the Halong Environmental Education Association (HLEEA) in accordance with the official procedure of QN PPC (Decree No. 45) 3) To promote social experiment in line with CEPC 4) To appreciate a proposal of the sustainable tourism development strategy, and to promote eco-tourism 5) To reflect the terminal evaluation results and recommendations for the rest of the project period	1) WG-1 has considered the necessary indicators of water quality, wastewater treatment and inspection, and sedimentation in the Halong Bay. 2) WG-4 discussed and prepared the more detailed and practicable institutional set-up of HLEEA. 3) WG-2 is preparing the detailed plan of the social experiment to be held on December 1, 2012. 4) WG-2 suggested that the proposal should consider the tourism sector M/P, which is to be prepared by QN PPC. 5) PMB and JET have prepared a draft proposal of the Environmental Protection for Sustainable Tourism Strategy in Halong Bay considering the recommendations from the Terminal Evaluation Report.
Seventh CEM Meeting  (13/Dec/2012: Halong Plaza Hotel in Halong City)	- Discussion of the draft proposal of Output-1 and contents of the draft project completion report -Discussions of the plans and actions to be taken after the Project	1) To finalize the draft proposal of the Environmental Protection for Sustainable Tourism Strategy in Halong Bay based on the comments and suggestions in this CEM meeting 2) To promote EE and PR activities after the official establishment of HLEEA 3) To discuss further related effects and results of the social experiment held on December 1, 2012. 4) To consider activities of floating villagers, taking into account the policy of QN PPC 5) To put high priority to human resource development in order to achieve the actual and steady implementation of the proposal prepared by the Project	1) PMB and JET will finalize the proposal based on the comments of CEM members. Also, the draft proposals of WG-1, WG-2, and WG-4 will be soon prepared in the project period. 2) WG-4 is ready for further actions after the official establishment of HLEEA. 3) WG-3 will focus on not only the floating villagers, but also the people working in the Bay. Moreover, WG-3 proposes new job opportunities and market through the proposal.

出典：JET

## (2) WG メンバー

4つのワーキンググループに所属する関係機関からの26名のC/Pが活動を継続した。各WGは、活動の実施、進捗及び達成度の確認、結果及び成果を共有するため、JETとともにディスカッションミーティングを開催してきた。この結果は各WGの章に示す。

## (3) プロジェクト管理委員会 (PMB) とのレギュラーミーティングの開催

「ベ」国側C/PとJETの間の円滑かつ良好なコミュニケーションのために、PMBとJETは毎週月曜日にレギュラーミーティングを開催した。プロジェクト開始から2012年7月までに、合計77回のレギュラーミーティングを開催した。なお、2012年5月から2012年12月までのレギュラーミーティングの内容は表2-3-2に示すとおりである。

表 2-3-2 PMB とのレギュラーミーティングの一覧(2012年5月～2012年12月)

No.	Date	Discussion Item
53	14/May/2012	-The second TV meeting with JICA HQ and JICA VN Office -Discussion and preparation of the proposal to CEM is to be conducted with PMB -Implementation plan of IEMIP in 2012 -Trial version of PSD -WS on Eco-label Pilot Project -Eco-net activity and association proposed by WG-4
54	21/May/2012	-Preparatory works for TV program "Earth VOCE" -Visit on the Project by the Junior High School Mission on 28 July (Sat)



No.	Date	Discussion Item
		-Nomination of new C/P personnel for WG-1 -Plan of the World Environment Day and participation of JET -Discussion and preparation of the proposal to CEM with PMB
55	28/May/2012	-Procedure of training in Japan in June -Revision of draft CEPC map and materials on action plan -Revision of operation plan and schedule of activities for WG-3 -Planned activity in the World Environment Day and participation of JET
56	11/June/2012	-Procedure of training in Japan in June -Commencement of the third pollution source survey -Preparation for equipment procurement for WG-1 -Discussion meetings of WG-2 on 5 June and WG-3 on 6 June -Activity in the World Environment Day and participation of JET
57	18/June/2012	-Terminal evaluation of the Project -Internal discussion on water environment management database -Field reconnaissance with WG-2 -Preparation of the strategies and measures for sustainable tourism development -Application for the establishment of HLEEA
58	25/June/2012	-Visit the project by the Junior high school mission on 27 July (Fri) -Terminal evaluation of the Project -Discussion meeting of WG-1 on 22 June -Preparation of TOR for water environmental monitoring database and proposal on water environmental management
59	2/July/2012	-Preparation of TOR for water environmental monitoring database and proposal on water environment management -The third pollution source survey in Cam Pha and Hoanh Bo -WG-2 meeting with Quang Yen Town on 27 June -Schedule of WG-4's activities in July and August
60	9/July/2012	-Draft proposals on water environmental management, DB and implementation plan for inspection and check -Preparatory works for eco-fair 2012 in August -Application for establishment of HLEEA
61	16/July/2012	-Discussion meeting of WG-1 on 13 July on PSD and PS map, check and inspection, and pollution incidents -Information collection by WG-2 on the drawing of the current wastewater and drainage pipe network -Work on preparation of measures for sustainable tourism development
62	30/July/2012	-Use of application program on pollution source map and study plan on environmental pollution incidents -“PSD Operation Group” -Collecting materials related to CEPC in July 2012 for Output-3 -Review and comment on the draft measures for sustainable tourism development by the WG members -Updating data for the tourism resource database with support from the local staff (land use and GIS) -International conference on preserving and promoting the values of Halong Bay on 24 July
63	13/Aug/2012	-Terminal evaluation and receipt of the JICA Press Tour on 28 and 29 August. -Completion of the third pollution source survey in Cam Pha and Hoanh Bo -Introductory training on the pollution source map (PSM) in the 20th discussion meeting on 9 August
64	27/Aug/2012	-WG-2 meeting with DPI on Halong City Environmental Improvement Project on 13 Aug., and in Hoanh Bo on 16 August. -Discussion meeting of WG-2 on 22 August. -Tourist questionnaire survey by the sub-contractor
65	11/Sept/2012	-Preparation of Progress Report (5) -Successor of CEM member from MONRE -Visit the project by Graduate School of Management, Kyoto University on 27 Septembr. -Atomic absorption system (AAS) training -WG-2 meetings and field surveys -Progress of the tourist questionnaire survey and works for EE and PR -Preparation for eco-fair 2012
66	17/Sept/2012	-Draft agenda of the 6th CEM meeting -Draft proposal of phase 2 of the Project -Preparation of Progress Report (5) -Comments by DOC on the proposed measures for CEPC -Current progress of establishment of the HLEEA
67	24/Sept/2012	-Modified draft agenda of the sixth CEM meeting -Comments on the proposal of phase 2 of the Project -Results of discussion on the eco-label pilot project proposal with WG-3 -Issues on the website of EE and PR
68	8/Oct/2012	-Preparation of the sixth CEM meeting and terminal evaluation -Results of discussion on the eco-label pilot project proposal with WG-3
69	22/Oct/2012	-Preparation of the sixth CEM meeting and schedule of the terminal evaluation -WS related to CEPC of WG-2 and mangrove survey -Activities of WG-3 and WG-4
70	29/Oct/2012	-Schedule and contents of the terminal evaluation -Discussion on the draft proposal related to Output-1 -Comments and discussion related to Pr/R-5 -Activities of social experiment of WG-2 and eco-fair of WG-4

No.	Date	Discussion Item
71	5/Nov/2012	-Terminal evaluation and questionnaire survey -WS and discussion meeting of the sustainable tourism development -Activities of social experiment and pre-meeting with relevant organizations of QN PPC of WG-2
72	12/Nov/2012	-Discussion on the terminal evaluation and fixed schedule, and evaluation of mission arrival -Activities of social experiment of WG-2 and eco-fair of WG-4 -Final preparation of the sixth CEM meeting
73	19/Nov/2012	-Discussion meeting and WS for the sustainable tourism development -Activities of social experiment of WG-2, and eco-fair and eco-network meeting of WG-4
74	26/Nov/2012	-Draft preparation of the project completion report -Management activities of the social experiment of WG-2, and eco-fair and eco-network meeting of WG-4
75	3/Dec/2012	-Discussion of the draft proposal of Output-1 -Preparation of the seventh CEM meeting and final seminar -Draft preparation of the project completion report
76	10/Dec/2012	-Discussion on the draft proposal of Output-1 -Contents and participants of the seventh CEM meeting and final seminar -Draft preparation of the project completion report
77	17/Dec/2012	-Overall discussion of the Project - Submission of the draft PCR and outputs of WGs

出典：JET

#### (4) プロGRESS・レポート(5)の作成

2012年5月から11月までの進捗とプロジェクト活動の達成度についてプロGRESSレポート(5)を作成し報告した。

#### (5) プロジェクト事業完了報告書(案)の作成

2010年4月から2012年12月までの全プロジェクト活動と最終成果についてプロジェクト事業完了報告書(案)を作成し報告した。

#### (6) プロジェクト事業完了報告書の作成

プロジェクト事業完了報告書(案)に対するベトナム側のコメントに基づき、プロジェクト事業完了報告書として最終化した。

### 2.3.2 成果-2：環境資源管理

#### (1) WG-1のディスカッションミーティングの開催

2012年5月～2012年12月に、WG-1のタスク・マトリックスに基づいた活動について議論するために3回のディスカッションミーティングを開催した。主な協議結果は、表2-3-3に示したとおりである。詳細はプロジェクト事業完了報告書に添付した。

表 2-3-3 WG-1の協議結果

Sequence No. /Date	Theme	Major Comments and Proposals by WG-1	Actions of C/P and JET
18th WG-1 Meeting (20/June/2012: QN DONRE)	1. Discussing proposals on water environment management 2. Discussion on water environmental monitoring database	1. WG-1 agreed to prepare the proposals on water environmental management, cooperating with WG-2 and WG-3. 2. Water environmental database should be managed by Quang Ninh DONRE. 3. Water environmental database should include wastewater data.	1. JET will continue to prepare draft proposals on water environmental management. 2. Concept of water environmental monitoring database will be revised based on the comments by WG-1.
19th WG-1 Meeting (13/July/2012: QN DONRE) (Planned)	1. Review and discussion of WG-1B activities (for pollution source control)	1. WG-1 has evaluated the database to be useful. 2. The operational regime involves several agencies such as the sub-department of EP, Environmental Inspection, Environmental Police and HBMD, etc. So, opinions of relevant agencies, especially the opinion of the Sub-Dept. of EP, should be	1. WG-1 will nominate suitable staff as members of the operational regime of PSD. 2. JET will continue to prepare draft proposals on water environmental management.

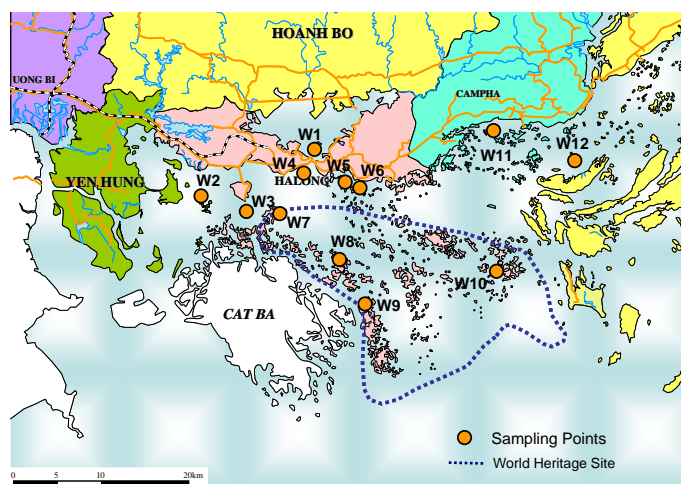
Sequence No. /Date	Theme	Major Comments and Proposals by WG-1	Actions of C/P and JET
	2. Introduction on draft recommendations on water environmental management 3. Introduction on TOR and schedule for developing water environmental monitoring database	considered when the regime is developed. 3. According to the regime, WG-1 recommended that DONRE at district level such as Halong City and Quang Yen Town would be involved. JET replied that it was better to operate the PSD by Quang Ninh DONRE at the initial phase to manage the PSD smoothly.	
20th WG-1 Meeting (9/August/2012, QN DONRE)	1. Discussing third pollution source survey results 2. Introductory training for PSM 3. Discussing the PSD operation group 4. Discussing the reports on: - Implementation plan of inspection and administrative guidance - Measures against environmental pollution incidents 5. Discussing the preliminary result of the internal evaluation	1. Based on the third pollution source survey, the PSD has been updated already. 2. Major members of the PSD operation have been assigned, but some members have not been designated yet. 3. JET is now preparing the reports on the implementation plan of inspection and administrative guidance and measures against environmental pollution incidents, based on the survey results. 4. The VN side has submitted the preliminary result of the internal evaluation.	1. Copies of PSD file were updated based on the second site survey results and were handed over to Ms Ni Tan. 2. Necessary members of the PSD operation group will be added after further discussions in the VN side. 3. Reports on the implementation plan of inspection and administrative guidance and measures against environmental pollution incidents will be discussed in the coming months of November and December. 4. Result of the internal evaluation will be more precisely discussed, based on specific criteria to be clarified.

出典：JET

## (2) 環境モニタリング

### 1) 環境ベースライン調査

再委託調査によって、2010年11月に環境ベースライン調査を実施し、ハロン湾の環境の現況を把握した。水試料及び底泥試料を2010年11月17日及び18日に、図2-3-1に示すサンプリングポイントから採取した。調査の結果、ハロン地域における有機物及び油による影響が確認された。



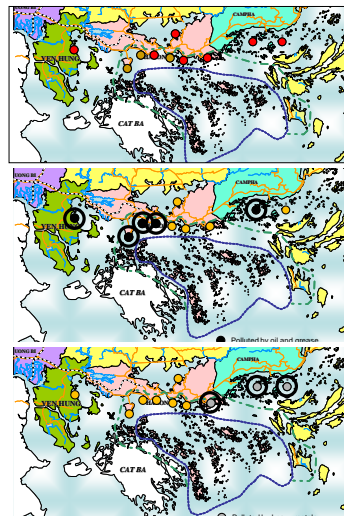
出典：JET

図 2-3-1 ベースライン調査のサンプリング地点

2011年12月に実施された捕捉モニタリングにより、WG-1は陸域からの排出される排水の影響を取り纏めた。その結果を図2-3-2に示す。

2) モニタリングネットワークの現況のレビュー

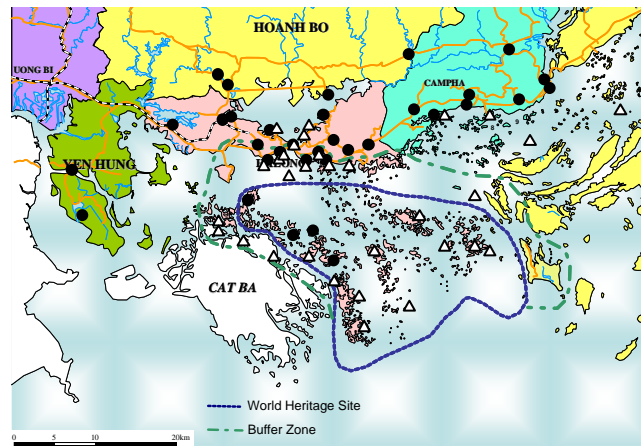
水環境モニタリングネットワークの現状を図2-2-4に示す。ネットワークは、世界遺産地域及びそのバッファゾーンを含んでおり、統合モニタリング実施計画に適用する事が可能であった。



- Organic substance impacts were observed at all sampling points.
- Oil and grease impacts were observed at the points in the area where vessels operating frequently.
- Heavy metals impacts were observed at the points relate to coal mining activities.

図 2-3-2 ハロン湾の沿岸域に対する水質の影響の確認

カンニン省 DONRE は、(i) 陸域の汚染源、(ii) 沿岸域、(iii) 世界遺産地域の主な観光ゾーンでモニタリングを実施している。ハロン湾環境管理部は、(i) 世界遺産地域、(ii) バッファゾーン及び世界遺産地域、(iii) 主な観光スポット、(iv) 水上村、及び(v) バイツーロン地域の海域をモニタリングしている。両機関のモニタリングネットワークにより、陸域及び海域をカバーしている。



注： ● Monitoring points by Quang Ninh DONRE  
 ▲ Monitoring points by HBMD

出典：JET

図 2-3-3 水環境モニタリングネットワークの現状

3) WG-1 が選定した水環境管理に係る注意すべき施設及び地域

WG-1はカンニン省の汚染源データベースを作成し、汚染源の分布を確認すると共に、ハロン湾の水環境管理に係り注意すべき施設及び地域を選定した。選定された施設及び地域は、(i) 石炭鉱山関連施設、(ii) Cai Lan 工業団地関連の工場、(iii) セメント製造施設、(iv) 食料品・飲料加工工場、(v) 造船所、港、(vi) 特殊施設、及び(vii) 十叙地域、である。

4) IEMIP の作成

2010年10月から2012年9月にかけて、WG-1は統合環境モニタリング実施計画(IEMIP)について議論した。WG-1の議論の結果、以下の内容が整理された。

a) IEMIP の目的

WG-1の議論により IEMIP の目的は以下のとおり設定された。

- ハロン湾の自然環境の価値及び観光、漁業、環境教育の場といった様々な人間の活動のための機能を評価するため、その現状及び変化の傾向を把握する。

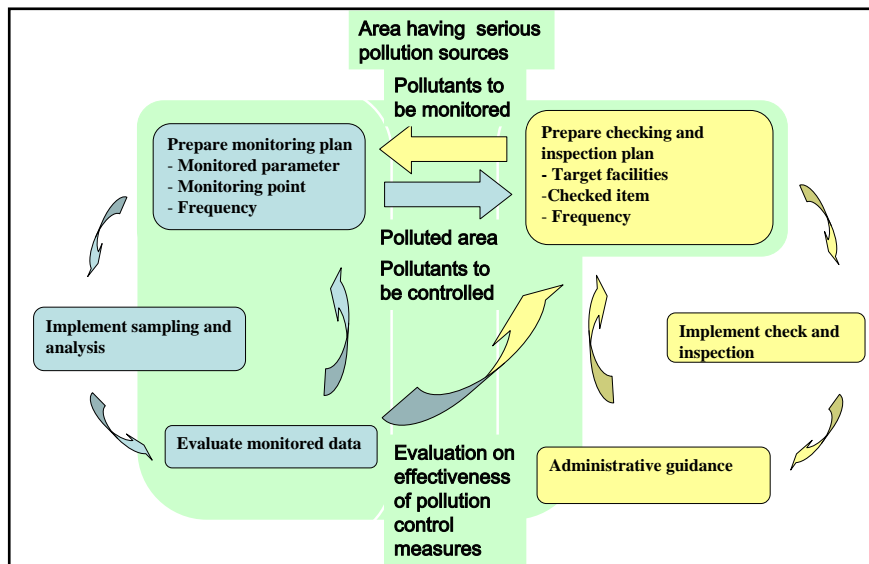
- ハロン湾地域で実施された汚染管理活動の効果を評価し、環境管理に係る戦略を作成するため、汚染源の影響を把握する。
- ハロン湾の自然環境の賢明な利用のための意思決定を支援するために必要な情報を提供する。

b) IEMIP に参加を期待する機関

参加を期待する主な活動機関は、a) クアンニン省 DONRE、b) 環境警察部、c) ハロン市、ホアンボ地区、クアンエン町、及びカンファ市、d) ハロン湾管理局、である。

c) IEMIP のアプローチ

IEMIP は水環境モニタリングと汚染源管理の相互作用強化に寄与する事が期待される。相互作用強化のため、関係機関でモニタリング情報を共有する事は極めて重要である。現在、EMAC は定期的にモニタリング報告書を作成している。この報告書が DONRE の環境保護副部といった汚染源管理を行う部署が汚染の状況を確認するために使用される事が望ましい。



出典：JET

図 2-3-4 環境モニタリング及び汚染管理の相互作用

d) ハロン湾における追加モニタリング地点設定の提案

添付資料 2 の IEMIP に示す水質モニタリング結果を踏まえ、ハロン湾の既存の水質モニタリングネットワークを強化するため、以下の仮提案が示された。

- Hung Thang Ward の沿岸水域は、観光産業の中心であるハロン市中心街からの生活排水の影響を受けている。従って、この沿岸域をモニタリングする必要がある。特に、Hung Thang Ward の Cai Dam 湖の排水地点周辺が重要である。
- Tuan Chau 島は、観光産業の促進と新規の住宅地域の開発が進められている。モニタリングの結果、沿岸域は人為的な活動の影響を受けている可能性が示された。本地域の将来的な開発を考えると、本地域の沿岸域をモニタリングする事が望まれる。
- Lo Phang 川の水は上流域の鉱山活動の影響を受けていると考えられる。Lo Phang 川周辺の沿岸域の水質モニタリングの強化が望まれる。
- Cam Binh Ward から Cam Phu Ward にかけて、新規の住宅地の開発が進められている。今のところ、集約された排水処理システムは整備されておらず、生活排水は

未処理か腐敗槽による処理のみで排水されている。従って、本地域の沿岸の水域のモニタリングが望まれる。

- Cuan Yeng 町のエビ養殖場からの影響が確認された。Cuan Yeng 町に関連する沿岸域のモニタリングが望まれる。

上記を踏まえ、WG-1 は、これらの提案について優先度を定め、モニタリング結果を考慮し、モニタリングネットワークの提案を取り纏め、2013 年のモニタリングネットワークに反映するための提案を行った。

表 2-3-4 追加モニタリング地点の提案

No.	Sampling Location	Code	Objectives of Monitoring
1	Aquaculture Area, Minh Thanh Commune, Yen Hung District	NB9	To assess the coastal water quality that will have an impact from aquaculture activities and sources of waste from Yen Hung District.
2	Tuan Chau Ferry Area	NB16	To assess the coastal water quality in the area receiving waste from tourism and commercial activities of the Tuan Chau Island.
3	Buffer Zone in front of Bai Chay Area	NB17	To assess the coastal water quality in the area receiving waste from tourism activities, waterways transportation, and domestic.
4	Coastal of Hung Thang Urban Area	NB18	To assess the coastal water quality that will have an impact from domestic activities of the resident areas.
5	Coastal Boundary Road of Lan Be - Km8, Halong City	NB22	To assess the coastal water quality at the buffer zone of Hon Gai-Hong Ha that will have an impact from domestic waste on land, floating houses, and waterways transportation.
6	Area Receiving Water from the Lo Phong Stream	NB24	To assess the coastal water quality in the area receiving waste from coal mining and domestic.
7	Coastal Area from the Cam Pha Cement Factory to Vung Duc at Km6 Port.	NB26	To assess the coastal water quality in the area receiving waste from activities of coal exporting port, coal mining, cement production industry, shipyards, waterways transportation, and domestic.

注: Code is the number of sampling points designated by the Environment Monitoring Center of Quang Ninh Province.

出典: JET



出典: JET

図 2-3-5 提案された追加モニタリング地点の位置

## e) 沿岸環境保全コリドーにおける廃水管理に係る提案

WG-2 は、沿岸環境保全コリドーによる管理を提案している。それぞれの地域で、WG-2 は陸域からハロン湾の沿岸及び海域に対する影響を回避するための活動の提案を計画している。WG-1 は WG-2 の活動支援に寄与できる。提案できる施策案の概要を表 2-3-5 に示す。

表 2-3-5 沿岸環境保全コリドーの排水管理に係る提案

No.	Area	Proposed Measures
1	Cam Pha City - urban residential area and mining facilities	In this area, WG-2 recommends to decrease the impact caused by domestic wastewater and control mining facilities. WG-1 can propose the following activities: <ul style="list-style-type: none"> <li>➢ Select mining facilities to be controlled carefully;</li> <li>➢ Prepare inspection plans focusing mining facilities; and</li> <li>➢ Provide relevant monitoring results on domestic and mining wastewater.</li> </ul>
2	Eastern Halong City - urban residential area	In this area, WG-2 recommends to decrease impact caused by domestic wastewater and control industrial wastewater. WG-1 can propose the following activities: <ul style="list-style-type: none"> <li>➢ Provide a list of industries focused on industrial wastewater management;</li> <li>➢ Prepare inspection plans on industries focused on industrial wastewater management; and</li> <li>➢ Provide relevant monitoring results on domestic and industrial wastewater.</li> </ul>
3	Hoanh Bo District - Cua Luc Estuary area	In this area, WG-2 recommends to control aquaculture activity. WG-1 can propose the following activities: <ul style="list-style-type: none"> <li>➢ Provide a list of main aquaculture companies;</li> <li>➢ Prepare inspection plans focusing on aquaculture; and</li> <li>➢ Provide relevant monitoring results on aquaculture.</li> </ul>
4	Western Halong City - Cai Lan Industrial Zone	In this area, WG-2 recommends to decrease impact caused by domestic wastewater and industrial wastewater from Cai Lan Industrial Zone. WG-1 can propose the following activities: <ul style="list-style-type: none"> <li>➢ Provide recommendations on wastewater treatment measures for the industries which will be operated in Cai Lan Industrial Zone;</li> <li>➢ Cooperate with industrial management board in controlling industries in Cai Lan Industrial Zone; and</li> <li>➢ Provide relevant monitoring results on domestic and industrial wastewater.</li> </ul>
5	Western Halong City - Bai Chay international tourism area	In this area, WG-2 recommends to decrease impact caused by domestic wastewater and tourism activity. WG-1 can propose the following activity: <ul style="list-style-type: none"> <li>➢ Provide relevant monitoring results on domestic wastewater and tourism impacts.</li> </ul>
6	Quang Yen Town - estuary area	In this area, WG-2 recommends to control aquaculture activity. WG-1 can propose the following activities: <ul style="list-style-type: none"> <li>➢ Provide a list of main aquaculture companies;</li> <li>➢ Prepare inspection plans focusing on aquaculture; and</li> <li>➢ Provide relevant monitoring results on aquaculture.</li> </ul>

出典：JET

## f) 水環境モニタリングデータベースの構築

水質モニタリングは、クアンニン省 DONRE、ハロン湾環境管理部、ハロン市や関連地区の DONRE といった一連の関係機関により実施されている。現在、異なる機関由来のデータ及び情報は、それぞれの期間で保管されており、それらの効果的な活用を妨げている。データベースは、水環境モニタリングデータを統合し、系統だった管理を行う事を目的として構築される。これにより、クアンニン省による効果的及び効率的な環境管理が可能となる。水環境データベースの概要案を表 2-3-6 に示す。

表 2-3-6 水環境データベースの概要

No.	Area	Proposed Measures
1	Concerned organizations	The following organizations in Quang Ninh Province will use the database: <ol style="list-style-type: none"> <li>a) Quang Ninh DONRE</li> <li>b) Halong Bay Management Department</li> <li>c) Halong City DONRE</li> <li>d) District/town DONREs</li> <li>e) Provincial Environment Police Department</li> </ol> Among organizations involved in the environment management, Quang Ninh DONRE is the core player and main user of the database.
2	Parameters to be inputted	Parameters are designated by <ul style="list-style-type: none"> <li>➢ QCVN 08:2008/BTNMT: National technical regulation on surface water quality,</li> <li>➢ QCVN 10: 2008/BTNMT: National technical regulation on coastal water quality, and</li> </ul>

No.	Area	Proposed Measures
		➤ QCVN 40: 2011/BTNMT: National technical regulation on industrial wastewater.
3	Frequency of updating data/information	Data will be updated quarterly.

出典:JET

### (3) 現場測定及び分析に係るトレーニング

2011年2月及び3月に以下の現場測定及び分析に係るトレーニングを実施した。

- 1) 汚染源からの排水の現場測定、サンプリング、前処理、試料の保存及び搬送にかかわる技術トレーニング（講義及び現場作業）

WG-1及び汚染管理に係る関連行政職員を対象とし、2011年2月23日及び24日に、講義及び石油関連製品を生産する企業において、pH、DO、EC及び濁度の測定に係る現場作業トレーニングを実施した。

- 2) 重金属分析に係る技術トレーニング（講義及び現場作業）

EMAC及びHBMD職員を対象とし、2011年2月21日～25日にかけて、EMACの所有する原子吸光光度計、model M6, Thermo Electronを用い分析トレーニングを実施した。分析サンプルは、EMACが採取及び前処理を行った河川水、排水、海水、及び底泥である。

- 3) ベトナム国基準でモニタリングの必要がありハロン湾に排出される可能性のある化学物質の分析に係る技術トレーニング（講義及び現場作業）

EMAC職員を対象とし、2011年2月28日～3月10日にかけて、EMACの所有するガスクロマトグラフ-質量分析計、TRACE GC、Thermo Electron（質量分析計に加えFID及びECDディテクター、及びキャピラリーカラムTR-5MS及びTR-Wax MS model M6を装備）を用い分析トレーニングを実施した。トレーニングは、農薬、BTX及び石油化合物を対象として実施した。

- 6) 機材の調達

WG-1の活動のため、以下のサンプリング・分析機材を調達した。

表 2-3-7 WG-1に係る調達機材リスト

No.	Item	Specification	Quantity
1	Portable pH meter	(1) Type of sensor: Glass electrode (2) Measurement range (pH): pH 0.00 to 14.00 (3) Resolution (pH): 0.01	3
2	Portable dissolved oxygen (DO) meter	(1) Measuring method: Galvanic cell/membrane based sensor (2) Measurement range (DO): 0.00 to 19.99 mg/l (3) Resolution (DO): 0.01 mg/l (4) Repeatability (DO): +/- 0.02 mg/l	3
3	Portable electrical conductivity (EC) meter	(1) Measurable parameters: Electrical conductivity, salinity, and temperature (2) Calculation of total dissolved solids (TDS): available <u>Electrical conductivity</u> (3) Measurement range (EC): 0.0 µS to 200 mS (4) Range scale, resolution, accuracy 1) 0 to 499 µS/cm (resolution: 0.1 µS/cm, accuracy: 1% of reading) 2) 0 to 4999 µS/cm (resolution: 1 µS/cm, accuracy: 1% of reading) 3) 0 to 49.99 mS/cm (resolution: 0.01 mS/cm, accuracy: 1% of reading) 4) 0 to 200.0 mS/cm (resolution: 0.1 mS/cm, accuracy: 2.5% of reading) (5) Range change over: Automatic and manual <u>Salinity</u> (6) Range: 0.0 to 70 ppt (7) Resolution: 0.1 ppt (8) Accuracy: +/- 0.2%	3
4	GPS	(1) Receiver: WAAS/EGNOS enabled (2) Accuracy of compass: +/- 5 degrees (3) Resolution of compass: 1 degree	1



No.	Item	Specification	Quantity
		(4) Accuracy of altimeter: +/- 10 ft (5) Resolution of altimeter: 1 ft (6) Accuracy of GPS: Less than 10 m	
5	Flow meter	(1) Measurable liquid: water, wastewater, wastewater including small amount of particles, wastewater contaminated by oil (2) Linearity: Better than 1% (3) Repeatability: +/- 0.5% (4) Accuracy: +/- 1% of velocity reading or +/-10 mm/s (5) Range (velocity): -52 ft/s to +52 ft/s (6) Pipe size: 1" to 240" (7) Pipe material: all metals and mostly made of plastic (8) Liquid type: all (9) Liquid temperature: 0 °C to 80 °C	1
6	Laboratory pH meter	(1) Type of sensor: Glass electrode (2) Measurement range (pH): pH 0.000 to 14.000 (3) Measurement range (temperature): 0 °C to 50.0 °C (4) Resolution (pH): 0.1/0.001 (5) Repeatability (pH): +/- 0.001	1
7	Secchi disk	(1) Diameter: 20 cm	3
8	Ekman bottom sediment grab sampler	(1) Type of sampler: Ekman bottom grab sampler (2) Size: 9" x 9" x 9"	1
9	Van Dorn water sampler	(1) Type of sampler: Van Dorn water sampler, (2) Size: 2.2 L	1
10	Voltage stabilizer	(1) Input power supply: 150(130 V) – 250 V (2) Output power supply: 220 V, 110 V (3) Capacity: 30 KVA (4) Type: 1st phase	1

出典: JET

#### (4) 汚染源管理

##### 1) 汚染源情報 (汚染源インベントリー及び地図を含む) (活動 2-6)

カンニン省汚染源データベースはカンニン省全域の汚染源を含み、主にインスペクションの計画立案に必要な情報を記録している。一方、ハロン湾地域の汚染源テーブルは、調査地域に位置する汚染源の関連情報を記録している。これらの情報システムを構築するため、DONRE が有する EIA 報告書、インスペクション/環境チェック報告書、排水分析報告書等の既存報告書を収集した。第 2 次調査ではハロン市の、また第 3 次調査ではカンファ市及びホアンボ地区の情報を収集した。

##### a) 基本使用

汚染源データベースプログラムの概要を以下に示す。

- プラットフォーム : Windows OS
- 属性 : スタンドアロンタイプ
- ソフトウェア : MS Access 2003
- インターフェース言語 : 英語/ベトナム語
- ユーザー : マルチユーザー
- データソース : エクセルによる入力データ

汚染源データベースは、インターネットで結合しなくても全てのユーザーが単一のデータベースを構築する事が可能なデータ同期機能を有したマルチユーザーシステムを用いている。

## b) 主な機能

汚染源データベースは主に水質汚濁に係るものであるが、ベトナム側の要望を踏まえ、有害廃棄物管理、鉱物資源管理といった他の機能も有している。表 2-3-8 に示すとおり、4つのコンポーネント（インベントリー、水環境管理、その他管理、及びデータ集積）について22の機能を有しており、各グループ及びタスクに係り、DONREの様々な活動により得られたデータを記録する。

表 2-3-8 汚染源データベースの管理グループ及びタスク

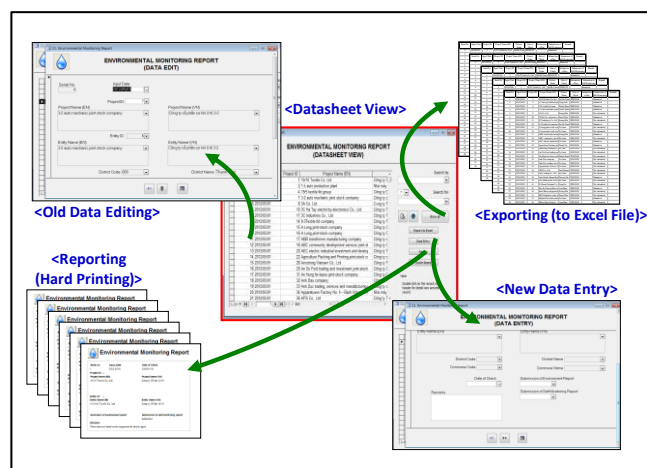
Task No.	Groups	Management/Registration Tasks
1	Inventory	Entity
2		Project
3		Contact
4		Basic Information
5	Water Environment Management	Environment Authorization
6		Inspection and Check
7		Effluent Measurement
8		Environment Protection Fee
9		Wastewater Discharge License
10		Serious Pollution Facilities
11		Environment Monitoring Report
12		Wastewater Information
13	Other Management	Hazardous Waste Generator
14		Hazardous Waste Transport
15		Hazardous Waste Treatment
16		Hazardous Waste Management
17		Mineral Resource License
18		Environment Rehabilitation
19		Environment Protection Expense Report
20	Data Aggregation	Pollution Load Calculation (PLC)
21		Pollution Load Table (PLT)
22		Pollution Source Inventory (PSI)

出典：JET

代表的なタスクは、図 2-3-6 に示すとおり、データの入力、編集及びエクスポートである。これらの作業はデータシート上の作業タブにより実施する。

## c) 汚染源データベースの出力

エクスポート機能により、汚染源データベースは環境管理面でよく使用される様々なフォーム（汚染源台帳、環境チェック・インスペクション記録、産業排水課徴金台帳など）を作成する事が可能である。



出典：JET

図 2-3-6 汚染源データベースの主な機能のイメージ

## d) 記録データ

汚染源データベースに記録されたデータの内容を表 2-3-9 に示す。

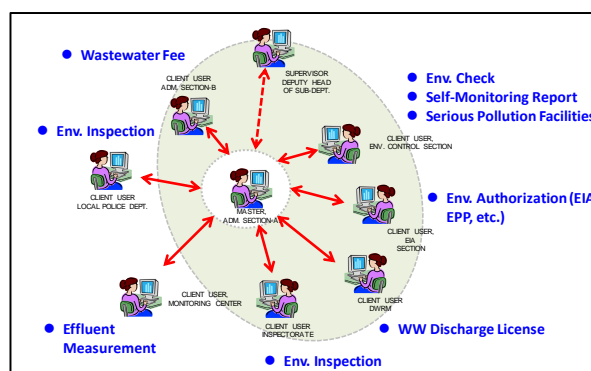
表 2-3-9 汚染源データベースに記録されたデータ

Name of Task	Data Contents	Numbers of Collected Data
1. Inventory of Pollution Sources	Key data to define the project (Data not changed even if EIA is amended)	534
2. Contact	Contact person and telephone number, etc. (possibly changed many times)	476
3. Project Information	Basic information of the project (possibly changed when EIA, EPC, EPP is amended)	535
4. Environment Authorization	Information of legal authorizations (EIA, EPC and EPP)	535
5. Environment Check and Inspection	Data showing the environment check and inspection results	170
6. Effluent Measurement	Data showing actual measurement result of water quality	77
7. Wastewater Information	Data showing planned or actual state of flow-rate and water qualities	624
8. Serious Pollution Facility	Data showing serious pollution facilities regulated by Decision No.64/2003/QD-TTg and Circular No.07/2007/TT-BTNMT	6
9. Environment Monitoring Report	Data showing environment monitoring report	542
10. Wastewater Discharge License	Data showing wastewater discharge license regulated by Decree No.149/2004/ND-CP	50
11. Environment Protection Fee	Data showing environment protection fee regulated by Decree No.67/2003/ND-CP	523
12. Hazardous Waste Generator	Data showing hazardous waste generator	161
13. Hazardous Waste Transport	Data showing hazardous waste transport	4
14. Hazardous Waste Treatment	Data showing hazardous waste treatment	1
15. Hazardous Waste Management	Data showing hazardous waste management	445
16. Mineral Resources License	Data showing mineral resources license	23
17. Environment Rehabilitation/Recovery	Data showing environment rehabilitation/recovery	23
18. Environment Protection Expenditure Report	Data showing environment protection expenditure report	57

出典：JET

## e) 汚染源データベースの運用

作成した汚染源データベースは、図2-3-7に示すとおり複数のユーザーがデータ入力可能なマルチユーザーシステムである。運用グループは、管理者、マスター（基本ユーザー）、及びクライアント（一般ユーザー）で構成される。汚染源データベースを円滑かつ効率的に運用するためのそれぞれのメンバーの役割を以下に示す。



出典：JET

図 2-3-7 マルチユーザーデータベースシステムのコンセプト

- 管理者：汚染源データベース運用の全てを管理する。
- マスター（基本ユーザー）：企業名やIDの入力を行い、6ヵ月毎に最新のデータの同期を行う。
- クライアント（一般ユーザー）：汚染源データベースに、日常的な管理業務で得られるデータ/情報を入力する。

現在、ベトナム側は表 2-3-10 に示す職員をデータベース運用担当者として指名している。

表 2-3-10 汚染源データベース管理組織

Task No.	Task Title	Database No.	Role	Unit	Person in Charge
0	Supervise	Supervisor	Supervisor	Sub-Dep. of EP	Vice Director
1	Entity	Master	Master	Env. Control Sec.	Mr. Cung
2	Project		Master	Env. Control Sec.	Mr. Cung
3	Contact	C-1	Client	Env. Control Sec.	Ms. Tuyet
4	Basic Information		Client	Env. Control Sec.	Ms. Tuyet
14	Hazardous Waste Transport	C-2	Client	Env. Control Sec.	Mr. Tuan
15	Hazardous Waste Treatment		Client	Env. Control Sec.	Mr. Tuan
16	Hazardous Waste Management		Client	Env. Control Sec.	Mr. Tuan
10	Serious Pollution Facilities	C-3	Client	Env. Control Sec.	Ms. Lien
11	Environment Monitoring Report	C-4	Client	Env. Control Sec.	Mr. Dung
6A	Inspection and Check	C-5	Client	Env. Control Sec.	???
12	Wastewater Information	C-6	Client	Env. Control Sec.	???
18	Environment Rehabilitation	C-7	Client	Env. Control Sec.	???
20	Pollution Load Calculation (PLC)	C-8	Client	Env. Control Sec.	???
8	Environment Protection Fee	C-9	Client	Administration Sec.	???
19	Environment Protection Expense Report	C-10	Client	Administration Sec.	Ms. Sen
5	Environment Authorization	C-11	Client	EIA Section	???
13	Hazardous Waste Generator	C-12	Client	EIA Section	???
7	Effluent Measurement	C-13	Client	EMAC	???
6B	Inspection and Check	C-14	Client	Inspection Division	???
6C	Inspection and Check	C-15	Client	Environmental Police	???
17	Mineral Resource License	C-16	Client	Mineral Resource Division	???
9	Wastewater Discharge License	C-17	Client	Water Resource & Hydro-Meteorology Division	???

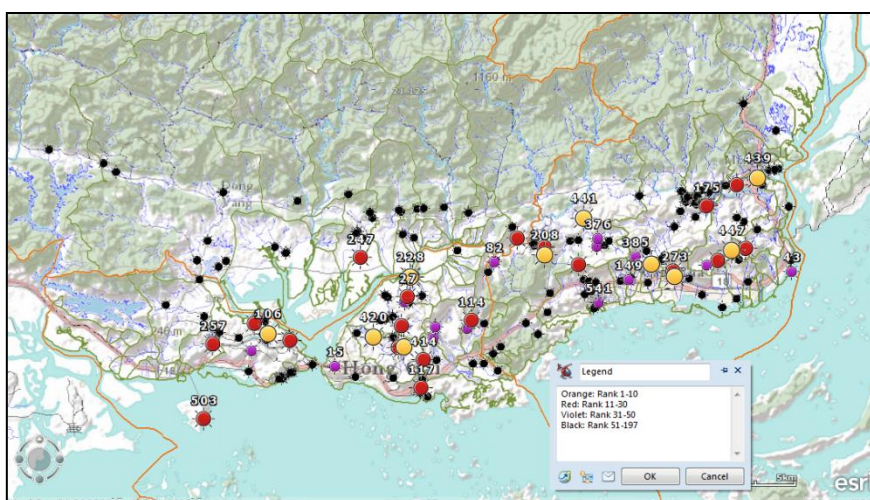
Note: Task 21 and 22 are commonly used by all users.

注: This table is yet to be completed.

出典: JET

#### f) 汚染源地図 (活動 2-6-2 及び 2-6-3)

汚染源地図 (PSM) は、汚染源の位置及び汚染源の関連情報・データを地形図上に示したものである。汚染源地図の作成には2つの手段を用いた。ArcGIS、及びフリービューワーである ArcGIS Explorer で作成した地図の2種類である。本項では、ArcGIS Explorer で作成した地図を紹介する。図 2-3-8 にハロン地域の汚染源地図を示す。汚染源地図のユーザーは、各汚染源の地理的な位置を確認すると共に、各汚染源をダブルクリックすることにより、汚濁負荷テーブルに示される負荷量等のデータ/情報を確認する事が可能である。



出典: JET

図 2-3-8 作成した汚染源地図の例

## g) 汚染源データベースの技術トレーニング

汚染源データベースに係る技術的なトレーニングとして、表 2-3-11 に示すとおり、計 4 回の講義及び実技トレーニングを実施した。

表 2-3-11 汚染源データベースの技術トレーニング

Training	Used Version of PSD	Date	Attendants	Presentation
1st Training	α-version PSD	25 November 2011	12 persons	- To introduce the objective and activities of PSD development, - To explain the basic requirements and functions of PSD, - To explain the basic concept of PSD operation, and - To navigate the basic operation of PSD.
2nd Training	β-version PSD	28 February 2012	37 persons	- To explain the progress and achievement status of the β-version PSD, - To explain the features of the β-version PSD, - To present the actual techniques on the PSD operation, demonstrating actual data-entry, edit, and so forth.
PSM Training	β-version PSD	9 August 2012	6 WG-1 members	- To explain the data-entry of 3rd pollution source survey, - To guide the pollution load calculation and the formation of pollution load table, - To guide the pollution source map (PSM) by using ArcGIS Explorer, and - To instruct the formation of the PSD operation group.
Final Training	β-version PSD	7 December 2012	32 persons	- To introduce the objective and activities of PSD development, - To guide the pollution source map (PSM) by using ArcGIS Explorer, - To guide the base map and PSM formation by using ArcGIS. - To explain the basic concept of PSD operation, and - To navigate the actual operation of PSD and synchronization.

出典：JET

## h) 環境チェック及びインスペクション (活動 2-3、2-4b 及び 2-5b)

本プロジェクトの環境管理コンポーネントは、ハロン地域の水環境管理のみに焦点を充てている。環境保護副部及びインスペクション部の義務と本プロジェクトで取り扱う活動の差異を考慮し、本プロジェクトでは、実際の執行活動に係る年間計画策定ではなく、環境保護副部及びインスペクション部の実施する水環境管理に係る活動の改善方法について焦点を充てることとした。

環境チェック及びインスペクションの年間実行計画は既に作成されている事を考慮し、WG-1 は以下の内容について検討を行うこととした。

- 水環境に係る環境チェック及びインスペクションの実施状況改善のための対策を提案する
- 環境チェック及びインスペクションの効果的な実施のために実行計画に必要な要求事項を提案する

プロジェクト期間中、インスペクション及び行政指導実行計画は以下のとおり作成、更新された。

- 第 1 稿：2011 年 2 月作成。収集した情報/データの解析、検討結果を踏まえた改善に係る提案を含む。
- 第 2 稿：2012 年 2 月作成。2011 年に実施した OJT を踏まえた検討を含む。
- 最終稿：2012 年 12 月作成。プロジェクト期間中の環境チェック及びインスペクションの結果の分析を含む。

## a) 環境チェック及びインスペクションの改善に係る検討結果

現状分析の結果、環境チェック及びインスペクションの実施、計画立案、関連する個人及び組織のキャパシティ、外部要因について多くの課題や改善すべき点が確認された。これらを踏まえ、WG-1 は、以下に示す 4 つの試みからなる長期の全体改善計画を作成した。

- 試み 1：環境チェック及びインスペクションの効果的、組織的な実施
- 試み 2：環境チェック及びインスペクションに係るパートナーシップ強化
- 試み 3：汚染源情報システムの開発及び情報共有化
- 試み 4：環境チェック及びインスペクションに係る人的資源の育成

本プロジェクト実施前の状況を踏まえ、WG-1 はこれらの試みを実現するために長期的に必要な活動について議論し、以下のとおり取り纏めた。

1. 環境チェック及びインスペクションの効果的、組織的な実施(試み 1)

Objective:	To realize an effective check and inspection contributing to the improvement of environment protection measures at sources.															
Necessary actions:	<p>1) <b>Action 1-1:</b> Setup the implementation criteria and accordingly, plan the implementation of environment check based on the criteria.</p> <p>Internationally, it is a common practice that the authority conducts one time check for every generation source (at least). It is suggested that the Sub-department of EP should increase its enforcement capacity to be able to render more environment check.</p> <p>At this moment, the criteria for implementation of environment check is proposed as shown in <b>Table 2.3-12</b>, so that the Sub-department of EP can calculate the required number of annual checks, and plan for necessary manpower for that purpose.</p> <p>For example, based on the Preliminary Pollution Source Inventory prepared by WG-1, about 250 are listed as pollution source projects discharging wastewater (wastewater-discharging projects). Assuming that the risk level of projects are at the level A with 20, at the level B with 30, at the level C with 100 and finally, at the level D with 100, the total number of necessary environment check are calculated to be 170 annually.</p> <p>It is recommended that the Sub-department of EP shall discuss and set up the criteria for check implementation, and calculate necessary frequencies of check, thereby establishing the required annual implementation plan of check.</p> <p>On the basis of such required plan, Sub-department of EP should consult with DONRE for the necessary human resources expansion.</p> <p style="text-align: center;"><b>表 2-3-12 環境チェックの実施基準案</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Risk Level of Pollution Source</th> <th style="width: 15%;">Frequency of Environment Check</th> <th style="width: 65%;">Subject Pollution Source</th> </tr> </thead> <tbody> <tr> <td>Level A</td> <td>Every six (6) months</td> <td>“<u>High possibility of serious environment damages</u>”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.</td> </tr> <tr> <td>Level B</td> <td>Every 12 months</td> <td>“<u>Medium possibility of serious environment damages</u>”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.</td> </tr> <tr> <td>Level C</td> <td>Every 18 months</td> <td>“<u>Few possibility of serious environment damages</u>”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.</td> </tr> <tr> <td>Level D</td> <td>Every 24 months</td> <td>“<u>Possibility of only minor environment damages</u>”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.</td> </tr> </tbody> </table> <p>2) <b>Action 1-2:</b> Setup a clear criteria in implementing environment inspection</p> <p>Usually, the Sub-department of EP gives out some administrative instructions when violations are found during the environment check. Even if these instructions are disregarded by pollution enterprises no penalties are being imposed.</p> <p>In such cases, imposition of administrative sanctions, e.g., monetary fines, cease of operation, etc., grounded on the Inspection Law and other regulations becomes necessary. With this end in view, the environment inspection organized by Inspection Division is implemented.</p> <p>The Sub-department of EP, as a leading unit of the environment protection, should set clear criteria on the necessity of inspection implementation and request the Inspection Division to enforce it accordingly. In this regard, the call for environment inspection conducted by Inspection Division should be made by the leadership of the Sub-department of EP.</p> <p>3) <b>Action 1-3:</b> Setup the criteria in imposing rigorous sanctions</p> <p>Decree No. 117/2009/ND-CP (December 31, 2009) defines the regulation on the application of administrative sanctions. Administrative sanctions may be imposed by directors of PPC, district-level PCs, and commune-level PCs, as well as chief inspectors and inspectors. It is emphasized that the Inspection Division and officers concerned in PPC examine the criteria in</p>	Risk Level of Pollution Source	Frequency of Environment Check	Subject Pollution Source	Level A	Every six (6) months	“ <u>High possibility of serious environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.	Level B	Every 12 months	“ <u>Medium possibility of serious environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.	Level C	Every 18 months	“ <u>Few possibility of serious environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.	Level D	Every 24 months	“ <u>Possibility of only minor environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.
Risk Level of Pollution Source	Frequency of Environment Check	Subject Pollution Source														
Level A	Every six (6) months	“ <u>High possibility of serious environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.														
Level B	Every 12 months	“ <u>Medium possibility of serious environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.														
Level C	Every 18 months	“ <u>Few possibility of serious environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.														
Level D	Every 24 months	“ <u>Possibility of only minor environment damages</u> ”, based on characteristics, quantity of pollution loads, status of environment protection measures, surrounding conditions, etc.														

	imposing sanctions to prevent enterprises from violating the law repeatedly, and also impose these said sanctions through a rigorous process of decision-making including cease of operation.
Leading unit:	Both the Sub-department of EP and Inspection Division

2. 環境チェック及びインスペクションに係るパートナーシップ強化 (試み 2)

Objective:	To consolidate and expand the partnership between the Sub-department and other units concerned.
Necessary actions:	<p>1) <b>Action 2-1:</b> Construct a strong regime for environment check by the Sub-department of EP.                  A number of units are involved in the environment check, among them are: , Sub-department of EP, Inspection Department, and Environment Police. These units are the key players with respect to administrative guidance based on the check results. Their respective mandates on violations are as follows:                  - Sub-department of EP: Issues administrative instructions to correct and modify measures, serving as the state management authority, it has the responsibility to supervise and promote environment protection measures.                  - Inspection Division: Imposes administrative sanctions (warning, monetary fines, cease of operation, etc.) serving as government inspectorate.                  - Environment Police: Be able to deal with criminal cases in addition to imposing administrative sanctions.                  As seen from the above, the Sub-department of EP can give instructions against violators but has no legal power to impose administrative sanctions. In cases where administrative sanctions are necessary, the Sub-department of EP has to rely on the vested powers issued to the Inspection Division and Environment Police. Thus, the partnership among related units must be secured to promote environment protection.                  All three units are engaged in examining and supervising natural resources and environment as state agencies. As for the environment, the Sub-department of EP is the lead agency in enforcing national and local environment protection policies. Thus, strong leadership and governance of the Sub-department of EP in terms of planning and implementation are essential in consolidating and expanding the partnership on environment check.                  With this end in view, ECD of the Sub-department of EP needs additional human resources to fulfill its state management tasks.                  The Sub-department of EP should consult with DONRE on this matter, indicating the implementation plan and necessary manpower with reference to the setting up of the criteria for environment check implementation (as mentioned in Action 1-1).</p> <p>2) <b>Action 2-2:</b> Setup a standing committee for environment check and inspection                  The environment check must be enforced in close cooperation among units under the leadership of the Sub-department of EP. On the other hand, units concerned must be informed of the environment protection measures to fulfill their respective tasks in the check.                  Considering the increasing numbers of environment check to be required in the near future, a standing “Committee for Environment Check and Inspection” (titled tentatively), as per <b>Figure 2-3-9</b>, should be set up in DONRE.</p> <pre>                 graph TD                     Chairperson["Chairperson (Officer of QN DONRE)"]                     EnvPolice["Env. Police"]                     QIZA["QIZA"]                     SubDeptEP["Sub-Dept. of EP"]                     InspectionDiv["Inspection Div."]                     DistrictDONREs["District DONREs"]                     WaterResourcesDiv["Water Resources Div."]                     EMAC["EMAC"]                      Chairperson --- EnvPolice                     Chairperson --- QIZA                     Chairperson --- SubDeptEP                     Chairperson --- InspectionDiv                     Chairperson --- DistrictDONREs                     Chairperson --- WaterResourcesDiv                     Chairperson --- EMAC                      SubDeptEP --- InspectionDiv                 </pre> <p>図2-3-9 環境チェックとインスペクションの実施組織案</p>
Leading unit:	Sub-department of EP

## 3. 汚染源情報システムの開発及び情報共有化 (試み 3)

Objective:	To develop a reliable information system of pollution sources and information sharing to units concerned.
Necessary actions:	<p>1) <b>Action 3-1:</b> Refine the pollution source database WG-1 is currently working on the Quang Ninh Pollution Source Database System and the data collection is still ongoing. At present, the total collected data is about 540 pollution sources.</p> <p>2) <b>Action 3-2:</b> Update the data record in the database According to the information provided by the Sub-department of EP, new EIAs of 50 to 70 projects are approved annually. This means that almost 10% to 15% of the entire EIAs are added and/or replaced annually, given the existing total EIAs of 480. With this scenario, it is important that the pollution source database be updated continuously otherwise, it will become useless. WG-1 proposes that the Sub-department of EP shall take the lead role to develop a “sustainable updating system of pollution source database system”. The updating system is established under the partnership of all district-level DONREs and all commune-level officers, ensuring data collection not only of EIA projects but also EPC projects. The Sub-department of EP is requested to discuss and make a detailed plan as a leading unit, initiating this sustainable updating system.</p> <p>3) <b>Action 3-3:</b> Share the pollution source information to partner units As for the database, it is important that this will be used for actual environment check and inspection, and also for other purposes. The Sub-department of EP should share the database to concerned units after processing the information according to necessity. Such information sharing should take place in the Committee for Environment Check and Inspection proposed in Action 2-2 as an added opportunity.</p>
Leading unit:	Sub-department of EP

## 4. 環境チェック及びインスペクションに係る人的資源の育成 (試み 4)

Objective:	To enhance human resources for check and inspection.
Necessary actions:	<p>1) <b>Action 4-1:</b> Organize internal trainings In the survey of training needs, it showed that the very basic and common items of check and inspection are located in the higher needs, such as: - Legal knowledge on environment protection and management, - Legal knowledge on administrative sanction, and - Legal knowledge on environment standards, technical norms, and others. Apparently, these results imply that many members of the Sub-department of EP and Inspection Division are in the younger generation having relatively short experience in this field. Vietnam has its own legal regulations on environment inspection and check, including Inspection Law, other decrees/decisions, and inspection manuals. These documents specify many and diverse legal requirements and practices distinctive to Vietnam on check and inspection. It is presumed that trainings peculiar to requirements and practices in Vietnam should be effectively conducted by the Vietnamese side through internal trainings (with concerned central units, concerned specialized institutions and/or within QN PPC). Thus, it is recommended that, in the cooperation with internal/external institutes, internal training opportunities should be organized for members concerned, especially the younger generation. Such training plan should be planned and organized in the Committee for Environment Check and Inspection proposed in Action 2-2.</p> <p>2) <b>Action 4-2:</b> Organize technical trainings In view of the magnitude of training needs and appropriateness of training items that were clarified in the Project, the technical training mainly for WG-1 members is under preparation. This training aims to transfer the following aspects: - Knowledge and skills on wastewater environment protection measures, - Knowledge and skills on assessing environment protection measures, and - Japanese experiences on legal matters and knowledge/skills on administrative management and inspections. Specialized technical knowledge is crucial for a precise and accurate examination of the environment protection measures. Therefore, such technical trainings should be organized, inviting lecturers from specialized institutions and universities related to this field. Such training plan should be planned and organized in the Committee for Environment Check and Inspection proposed in Action 2-2.</p>
Leading unit:	Both the Sub-department of EP and Inspection Division

## b) 結論及び提言

## 本プロジェクト実施中の改善状況

本プロジェクト実施期間中、環境チェック及びインスペクションの改善に係る活動をPDMに定めたスケジュールに沿って実施した。これらの結果を踏まえ、提案した実行計画に示した試みについて、どの程度改善が図られたか評価した。



表 2-3-13 プロジェクト期間中の改善状況の評価

Challenges	Assessment of Improvement
Challenge 1: Realization of an effective and systematic implementation of check and inspection	- The annual implementation plans for check and inspection have been formulated every year. - The numbers of environment check have been increased at the level of around 90 times a year. - The criteria for the implementation of check and inspection have become clear.
Challenge 2: Consolidation of partnership among units concerned with environment check and inspection	- Necessary partnerships were constructed based on the communications among persons concerned, although special organizations were not formed.
Challenge 3: Development of pollution source information system and information sharing	- The pollution source information system (like PSD, PSI (or PST) and PSM) using computers have been developed, potentially resulting into helpful tools for the implementation of check and inspection.
Challenge 4: Enhancement of human resources engaged in check and inspection	- Training needs analysis has been conducted, clarifying more opportunities for training to be necessary. - Numbers of relevant skills and information have been transferred through lectures and OJTs during the Project. - The wastewater management handbook has been compiled and distributed as resource information.

出典: JET

将来的に必要な試み

環境保護副部及びインスペクション部による環境チェック及びインスペクションの強化は現在、継続して進められている。しかしながら、環境管理をより効果的なものとするためには、環境チェック及びインスペクションの成果を確固なものとするための体制構築が求められる。将来的に実施すべき施策の主な概要を以下に示す。

環境チェック及びインスペクションの量及び質の改善

企業による環境コンプライアンス遵守を促進するためには、より頻度の高い、またしっかりとした環境チェック及びインスペクションを行う必要がある。そのための施策として以下を実行する必要がある。

- 環境チェック及びインスペクション実施に係る明確な基準の設定
- 罰則の付与に係る明確な規定の設定
- 関連職員の専門知識及び技術を強化するための内部トレーニング及び技術トレーニングの実施

環境管理のための汚染源情報システムの活用及び更新

効果的な環境チェック及びインスペクションの実施のためには、様々なデータ及び情報が必要となる。本プロジェクトで作成したクアンニン省汚染源データベース及び汚染源地図の活用が非常に重要となる。

これらの汚染源情報システムを環境チェック及びインスペクションのために効果的に活用するため、以下の施策が必要となる。

- ハロン湾地域の汚染源データベースの持続的な運用の開始及び実施
- ハロン湾地域外の汚染源の情報追加による汚染源データベースの更新
- EPC 登録の汚染源を含む全ての汚染源情報の記録による汚染源データベースの向上
- 未確認の汚染源の確認と関連データの入力

## c) インспекション及び行政指導に係るトレーニング (活動 2-4b)

## i) トレーニングニーズ分析

環境チェック及びインспекションについて、関連する職員個人について強化すべきキャパシティを明らかにすることが重要である。このため、関連職員のキャパシティの現状を把握し、キャパシティ・ビルディングに係るトレーニングニーズを明確にするため、トレーニングニーズ分析を行った。トレーニングニーズ分析は、WG-1に関連する部署（インспекション部、環境保護副部、環境モニタリング・分析センター、ハロン市 DONRE、及び環境警察）に質問票を配布し実施した。

確認されたトレーニングニーズは以下の3分野に分類できた。

- カテゴリーA：環境管理に係る法関連事項の知識
- カテゴリーB：環境チェック及びインспекションの知識
- カテゴリーC：水環境保全に関連する知識及び技術

インспекション部の職員は、カテゴリーA（法関連事項）及びカテゴリーB（環境チェック及びインспекション）の内容に関し、以下の項目についてより高いトレーニングニーズがあると述べた（ニーズの高い順に記載）。

- 行政指導に係る法関連事項（カテゴリーA）
- 環境チェック及びインспекションで確認された内容の取り纏めに係る知識及び技術（カテゴリーB）
- 環境保護施策の評価に係る知識及び技術（カテゴリーB）

環境保護副部の職員は、全てのカテゴリーに関し、以下の項目についてより高いトレーニングニーズがあると述べた（ニーズの高い順に記載）。

- 排水に係る環境保護施策の知識（カテゴリーC）
- 環境保護施策の評価に係る知識及び技術（カテゴリーB）
- 関連法規のチェック及び評価に係る知識及び技術（カテゴリーA）

## ii) セミナーの開催

2011年2月23日に、日本人専門家による講義に関するセミナー（約3時間）を実施した。WG-1及び他の関連部署から32名がセミナーに参加した。講義の内容は水環境管理に係る日本の規則及び経験、及び法的事項から技術的内容まで含めた。講義を行った内容を以下に示す。

## - 第1部：日本の水環境保護に係る法体系及び規則

本講義は日本の排水管理に係る規則及び経験に係る講義である。講義内容は以下のとおりである。

- 日本の水質汚濁管理の歴史
- 日本の水環境管理の法体系
- 日本の水環境保護施策
- 日本の産業排水関連規則
- 水質事故に対する対応施策

- 日本とベトナムの排水関連規則の比較

- 第2部：産業排水の管理及び処理技術

本講義は、産業排水の管理及び処理技術に係る基本的な事項を含めた。講義内容を以下に示す。

- 排水発生源
- 生産工程内での汚濁負荷低減施策
- 排水の性質
- 排水処理技術
- 排水処理施設の維持管理
- 排水処理技術に係る現場視察

- iii) 排水管理ハンドブックの編集

調査及びOJTで確認されたトレーニングニーズを踏まえ、「排水管理ハンドブック」を編集し、WG-1メンバーに配布した。本ハンドブックは、環境チェック及びインスペクションの際に必要な専門知識及び技術を育成するための技術情報源として用いられる事を目的として作成した。

- iv) 環境チェック及びインスペクションに係るOJTの実施

JETは、現場作業の状況を確認するため、環境保護副部もしくはインスペクション部による環境チェック及びインスペクションに、2011年から2012年にかけて4回、同行した。同行は、キャパシティ・ディベロップメント活動の一環として、環境チェック及びインスペクションの実務について提言を行う事を目的として実施した。

環境チェック及びインスペクションに係る現場での実務は、企業の責務に関する法的関連文書の確認と環境保護施策の実施状況の現場でのチェックに分類される。

同行した4企業のうち、Mao Khe 石炭公社を除いた3社は関連規則の遵守状況は比較的良好で、違反も軽微なものにとどまっていた。これは、企業が環境保護について比較的高い意識を有していたためと考えられる。

一方で、Mao Khe 石炭公社については、インスペクションの結果、石炭排水処理に係る多くの違反事項が確認された。具体的な指摘事項を以下に示す。

- 排水処理施設の容量が十分でない。
- 排水処理施設の重要な箇所が故障しており、維持管理が良好でない。
- 排水処理施設が適切に稼働していない。
- 未処理の排水が水路に排出されており、残渣の堆積が著しい。

上記のような状況から、本企業の環境に係る意識は不十分であり、長期間、環境に係る義務を遵守していない事がうかがえた。

4回のOJTで確認された結果はWG-1メンバーに教訓として提示した。また、OJTでの確認結果を踏まえ、上述の「排水管理ハンドブック」に示す内容への適合状況を確認した。

## 3) 環境事故 (活動 2-7)

ハロン地域での環境事故の情報/データを収集した。併せて参考情報としてハイフォン港地域の環境事故の情報も収集した。また、収集したデータ/情報を分析し、事故の発生原因を検討した。収集した情報を検討した後、ハロン湾地域の環境事故防止に係る施策を提案した。

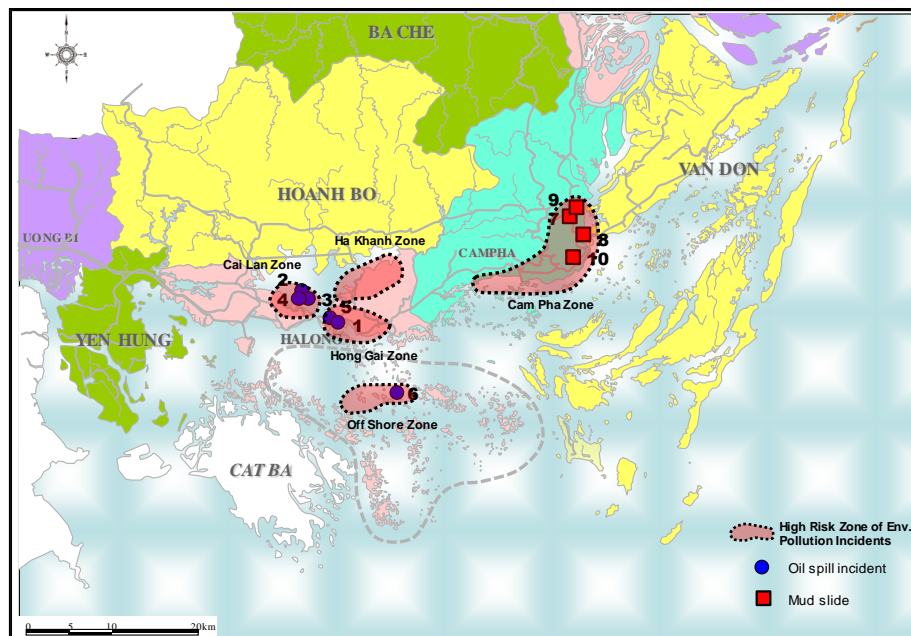
データ解析の結果、環境事故の現状は以下のとおり明らかとなった。

ハロン湾地域では、B12 石油積出港や沿岸及び河川の港、漁港、船舶停泊地に油漏洩事故をひきおこす可能性のある固定及び移動発生源が存在する。特に B12 石油積出港は、年間で約 1.8~2.0 百万トンの石油を搬送する 130~150 の石油搬送船を受け入れている。本プロジェクトで作成したカンニン省汚染源データベースに記録したデータによると、環境事故を引き起こす可能性のある 101 の経済、産業施設が確認された。

ハロン地域において過去 14 年間に確認された環境事故は 10 件であった。関連セクターの機関が既に環境事故防止策をルーチンワークとして実施していることが確認された。船舶及び港湾内の石油関連施設に対してもインスペクションが、石炭鉱山や有害物質製造及び貯蔵施設に対しては環境チェック及びインスペクションが実施されている事が確認された。

また、石油漏洩事故の際には、特別チームが特殊機材及び資材を用いて緊急対応を行う体制が構築されている。これまでは、ハロン地域における石炭鉱山の地滑り事故に対して、主に PPC が緊急対応組織を編成し対応している。

収集したデータ/情報から、図 2-3-10 に示すとおり、ハロン湾地域において、環境事故リスクを有するいくつかの地域が確認された。それらの地域は、Cai Lan 港の工業団地、石油漏洩のリスクを有する Hong Gai 地区、及び石炭鉱山地滑り事故リスクを有する Ha Khanh 地区及びカンファ市である。ハロン湾の海域については、石炭及び石油の漏洩事故の可能性はある。事故による有害物質の漏洩についてこれまでに報告された例は無いものの、ハロン湾地域には有害物質を取り扱う多くの施設があることから、有害物質漏洩事故のリスクが無い、とは言えない。



出典：JET

図 2-3-10 ハロン湾地域で環境事故リスクを有する地域

環境事故の発生防止施策として、関連組織（交通部、港湾局、DONRE 及び他セクターの部局）は、定期的な作業として、汚染源に対して必要なインスペクション及び監督のための施策を実施している。

現在、カンニン省は体系だった石油漏洩事故対策計画を有しておらず、「カンニン省石油漏洩対応計画」について、MONRE からの承認手続き中である。また、石油漏洩事故に対する緊急対応計画は間もなく策定される予定である。しかしながら、現在カンニン省は石炭鉱山の地滑り事故、及び有害物質漏洩事故に係る緊急対応計画を有していない。

環境事故に対する対策は、事故発生防止施策と事故発生後に被害を最小限にするための緊急対応計画の2種類に区分できる。収集したデータ/情報の分析に基づき、WG-1 は、上記課題に対応するための以下の施策を提案した。

- 事故発生防止施策
  - 環境事故の記録システムの確立（活動1）
  - 汚染源の有するリスクの同定（活動2）
  - 環境チェック項目のレビュー及び改善（活動3）
- 事故緊急対応施策
  - 環境事故関連規則の設立（活動4）
  - 環境事故に係る緊急対応実行計画の策定（活動5）

石油漏洩事故に関しては、「カンニン省石油漏洩対応計画」が間もなく承認される見込みであることから、当該計画による対応を提案した。

### 2.3.3 成果-3 (WG-2) : 土地利用管理

#### (1) ワーキンググループ協議

2012年5月～2012年12月の期間にワーキンググループ2(WG-2)及びJICA 専門家チームによる成果-3に係るワーキンググループ協議を3回開催した。概要は下表に示すとおりであり、詳細についてはプロジェクト事業完了報告書に示した。

表 2-3-14 成果-3に係るワーキンググループ協議の概要(2012年5月～2012年12月)

Sequence No.	Date, Venue, and Attendants	Objective(s) and Contents	Main points of the Discussion
14th	5 June 2012  Meeting room in QN DONRE  [Attendants] 4 members of WG-2 and 4 persons from JET	[Objectives]: -Further discussion on the narrowing down of the CEPC area by considering various aspects such as function and feasibility. -Discussion of necessary measures to be implemented in each zone/ area of the CEPC. [Contents]: 1)Results of the second workshop 2)Further discussion on defining the CEPC Halong Bay [Materials used] 1)Presentation materials 2)Discussion record of the 12th and 13th WG-2 Discussion Meetings 3)Discussion record of the second workshop	1) Proposal no. 3 of CEPC, which only covers the mangrove forest in Quang Yen Town, is agreeable. However, the new urban resident area in Ha Khanh Ward in Halong City, and coal sea port and cement factory in Cam Pha City are required to be considered. 2) CEPC measures also need to consider the cluster coal sea ports (eight sea ports) in Ha Khanh Ward in Halong City, and the removal of Nam Cau Trang coal port (coal port of South White Trang Bridge) in Halong City. 3) In order to narrow down the CEPC area, the forest area in the middle of Bai Chay Ward in Halong City should be excluded from the CEPC area, and the CEPC boundary in Quang Yen Town should follow the embankment for the aquaculture ponds near the mangrove forest instead of the 500 m buffer or the main road. 4) At present, Quang Ninh PPC's viewpoint is to follow the Green Economy, in which the reclamation projects will not be anymore approved in making the master plan. However, there are some reclamation activities which have been approved before and are being implemented. 5) The eco-town project located in western Halong City would be developed principally to keep and improve its landscape and follow Quang Ninh PPC's idea on Green Economy.
15th	22 August. 2012	[Objectives]:	1) In the Bai Chay International tourism area, Quang Ninh

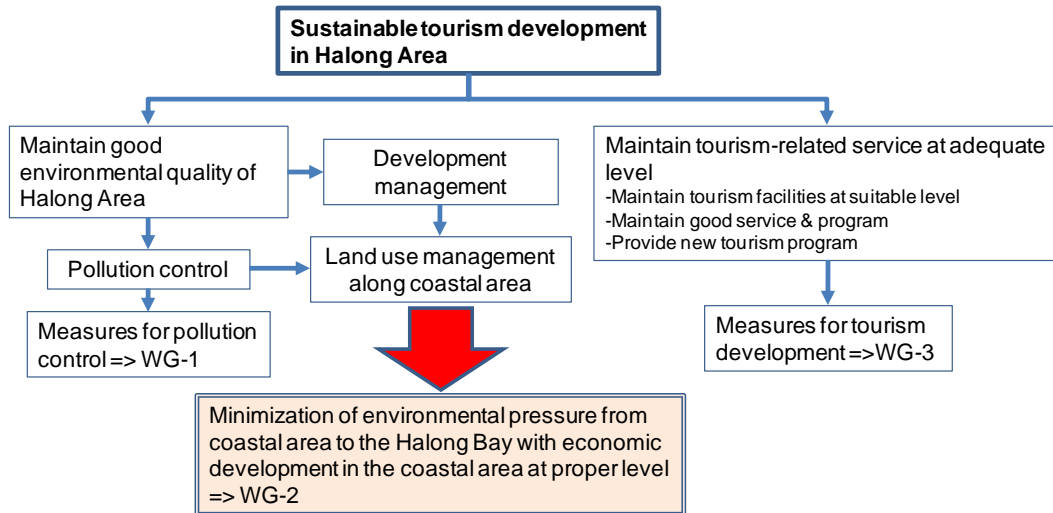
Sequence No.	Date, Venue, and Attendants	Objective(s) and Contents	Main points of the Discussion
	Meeting room in QN DONRE  [Attendants] 4 members of WG-2 and 3 persons from JET	-Progress of examination on measures in the CEPC -Further schedule for activities of WG-2 -Explanation on terminal evaluation [Contents]: 1) Progress of examination on measures in the CEPC 2) Further schedule for activities of WG-2 3) Explanation on terminal evaluation [Materials used] 1) Presentation materials	Province planned the parking spot for each hotel as well as the parking sites on the road. However, the main causes of traffic congestion are the drivers who do not comply with the traffic regulations. In addition, dropping tourists who come from hotels to the beach for swimming or walking also create traffic jam on the coastal road, especially in the weekends. 2) The main reasons for the unfinished construction work in the Bai Chay tourism area are financial difficulties of the investors in the context of economic deflation, and not by implementation of the compensation for ground clearance. In addition, some works are still under construction, but they are suspended by the inspection unit for handling due to incompliance with the plan. In general, the problems in land use management of Quang Ninh Province are related to the policies. Recently, check and inspection for the slow progress of works in the area for prompt handling have been strengthened by the Quang Ninh Province. 3) The Nam Cau Trang area will be added in the CEPC area of Halong City.
16th	11 October 2012  Meeting room in QN DONRE  [Attendants] 5 members of WG-2 and 3 persons from JET	[Objectives]: -Progress of examination on measures in the CEPC -Updated schedule for further activities of WG-2 [Contents]: (1) Progress of examination on measures in the CEPC 1) Report on information collection and field visit since the 15th WG-2 Discussion Meeting 2) Discussion on the proposed measures (2) Updated schedule for further activities of WG-2 [Materials used] 1) Presentation materials	1) There are some measures that are common in the different corridor zones. Therefore, the total number of types of measures will be reduced to avoid overlapping with each other. 2) If there is no planned coastal road map in Cam Pha urban area, the shoreline can be used as the boundary of CEPC in that area.

出典：第14回～第16回成果-3に係るワーキンググループ協議議事録

## (2) 成果-3に係るWG-2活動のアプローチ

WG-2に係る年間活動計画の作成に際して、WG-2の活動のアプローチとして“ハロン湾沿岸環境保全コリドー(Coastal Environmental Protection Corridor for Halong Bay)”を第2回ワーキンググループ協議でJICA専門家チームより提案し、議論した。以下に示すWG-2の活動アプローチは第2回ワーキンググループ協議における議論においてWG-2メンバーのコメントをもとに修正したものである。

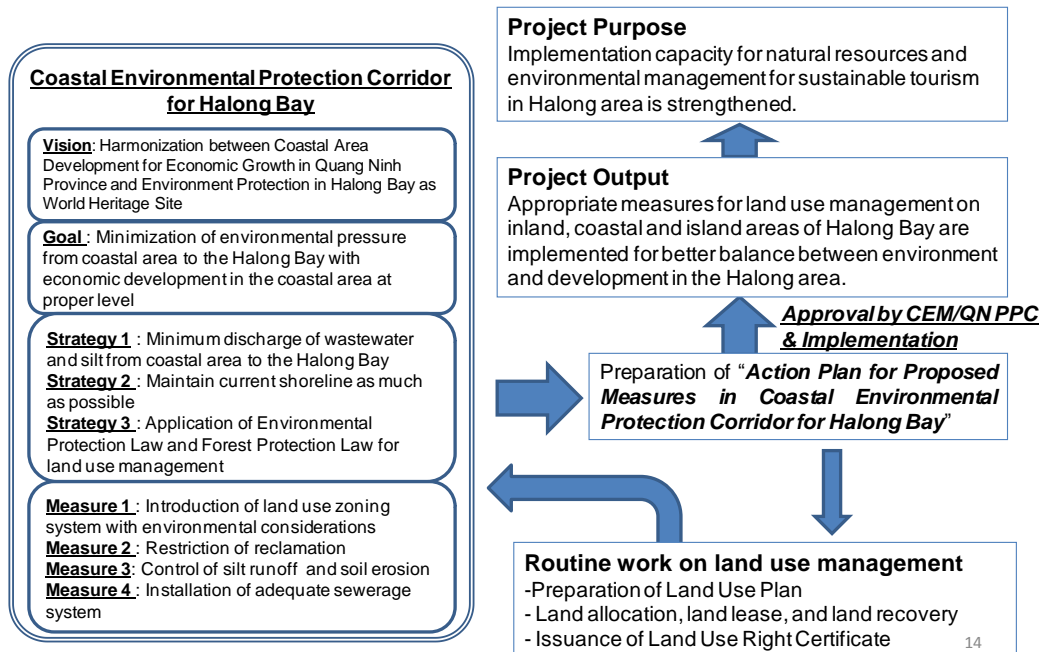
下図に示すように、ハロン地域における持続的な観光開発の実現に貢献する土地利用管理によるハロン湾の保全と共に、沿岸地域における経済開発による沿岸地域からハロン湾への環境圧力を最小化することを考慮する。上記の観点に基づき、WG-2は成果-3の活動として環境緩衝地域としての“ハロン湾沿岸環境保全コリドー”に着目することとした。



出典：WG-2

図 2-3-11 プロジェクト目標を達成するための WG-2 活動の目標

成果-3 によるプロジェクト目的の達成イメージを下図に示す。土地利用管理に環境的な観点を取り込んでハロン湾の保全のための土地利用管理を実現するためには、WG-2 メンバーが通常行っている土地利用管理に係る業務の内容に基づいて、ハロン湾沿岸環境保全コリドーが検討されることが重要である。ハロン湾沿岸環境保全コリドーのプロジェクト期間中ならびにプロジェクト後の確実な実施のためには、ハロン湾沿岸環境保全コリドーの各施策に係るアクションプランのプロジェクトでの作成と、CEM 及び QN PPC による承認が必要である。



出典：WG-2

図 2-3-12 成果-3 のプロジェクト目的の達成イメージ

「ハロン湾沿岸環境保全コリドー (CEPC)」の概念は、「ハロン湾の環境保全のための積極的な土地利用管理のためのハロン湾の沿岸陸域における空間的なコリドーであり、陸域の開発地域とハロンとの緩衝地帯、生物多様性とエコシステムの保全、及び持続的な観光を担保する機能を有する。」と定義される。

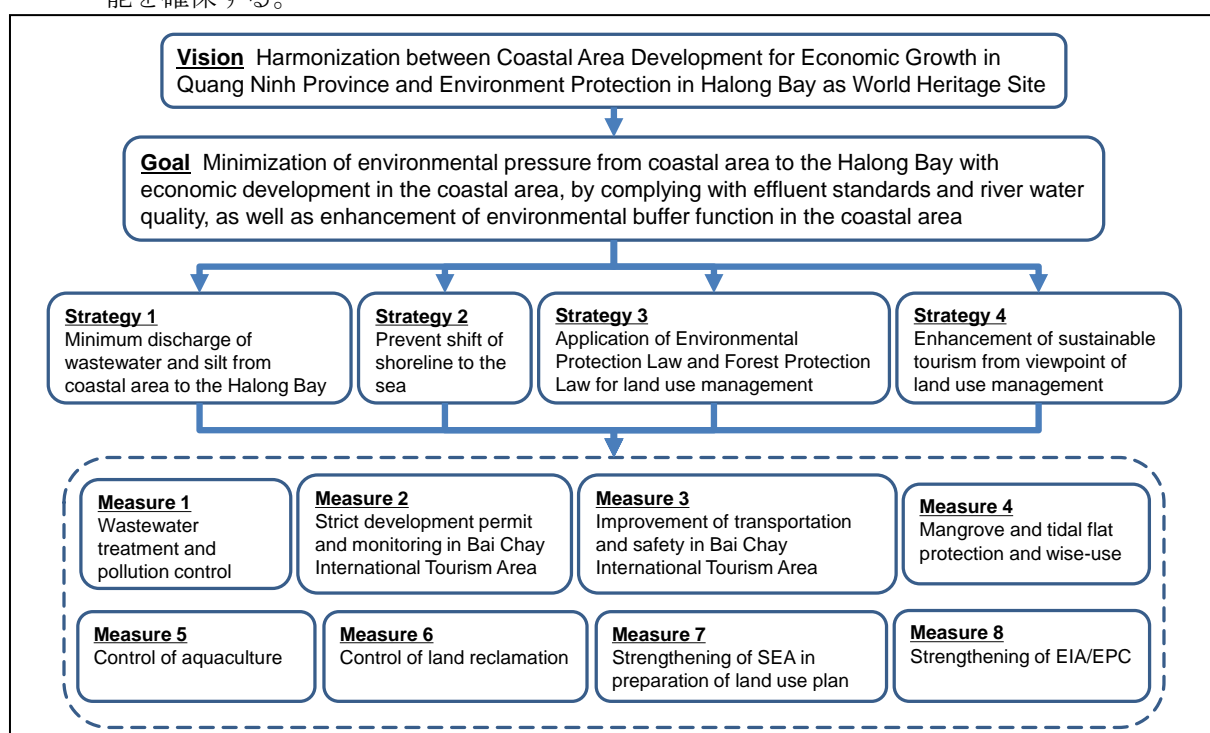
成果-3での具体的な活動の検討に際して、ハロン湾保全のための土地利用管理の観点からビジョン、目標、戦略、及び施策を下図のように検討した。ハロン湾沿岸環境保全コリドー（CEPC）の境界線および必要な対策を決定するために CEPC の機能を明らかにすることが必要である。WG-2 の協議を通じ、内陸沿岸域からハロン湾への正負両方の要因から、以下の二つの主要な機能を明確にした。

1) 陸域からハロン湾への汚染負荷の最小化

CEPC は、廃水、固形廃棄物、シルト等陸域由来の汚染負荷のハロン湾への流入をコントロールする。

2) ハロン湾の環境を保護する沿岸域に特有の自然機能の保全

CEPC はマングローブ林と藻場を含む沿岸域の干潟を保全し、鳥類および魚類の餌場と生息域を確保し、ハロン湾と周辺地域の生物多様性保全に貢献するとともに、水質浄化の機能を確保する。



出典：WG-2

図 2-3-13 沿岸環境保全コリドー(CEPC)のフレームワーク

提案された施策に基づき、ハロン湾沿岸環境保全回廊はどうあるべきかについて、以下のように目標を設定することにより検討した。これら目標に基づき、詳細な活動内容が検討された。

- a) 100%の生活排水が排水基準を満たすように処理される。
- b) 100%の産業排水が排水基準を満たすように処理される。
- c) 沿岸開発に起因した沿岸地域からのシルト流入が抑制される。
- d) ハロン湾沿岸環境保全コリドーの Troi 川や Lo Phong 川などの河川で河川水質基準が達成される。
- e) Binh Huong 河口域や Cua Luc 河口域において現在残っているマングローブや干潟を法的に保全・植林する。



WG-2においてハロン湾沿岸環境保全コリドー(CEPC)の境界設定に際して、行政界、道路(既存及び計画)、河川、標高(水深)、汀線、既存の土地利用ゾーニング、現在の土地利用/開発計画(例:下水道)、環境的に保護されるべき地域(例:マングローブ)、潮流など、境界設定のために様々な観点から検討した。2012年2月27日に開催の第2回ワークショップでのコメントやその後のWG-2での協議内容を踏まえて、CEPC地域を決定する際の方針を以下のように整理した。

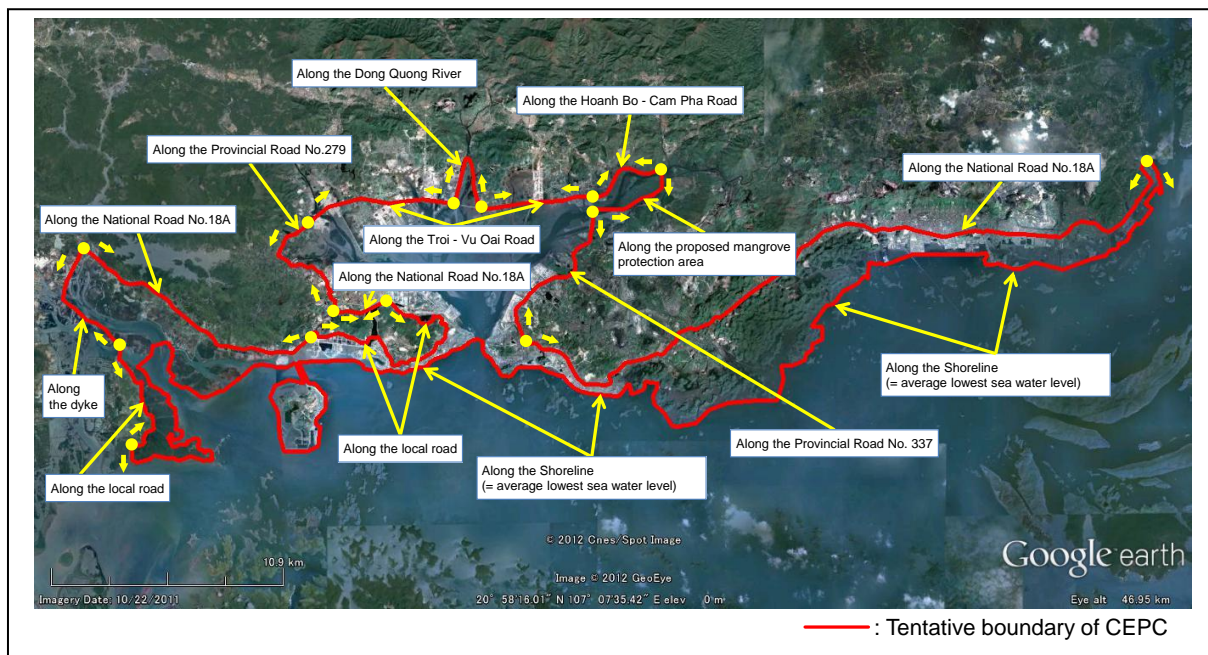
- 1) CEPCの境界は一般市民が分かりやすく、責任機関が容易に管理できるように法的根拠のある道路や海岸線などとする。
- 2) コリドーの範囲が広がらないように沿岸地域に集中させる。
- 3) CEPCが効果的かつ意義のある地域に絞る。
- 4) ハロン湾に対して影響がある将来開発が少ない地域は除く。

上記の方針に基づき、下図に示すようにCEPC地域を設定した。



出典: WG-2

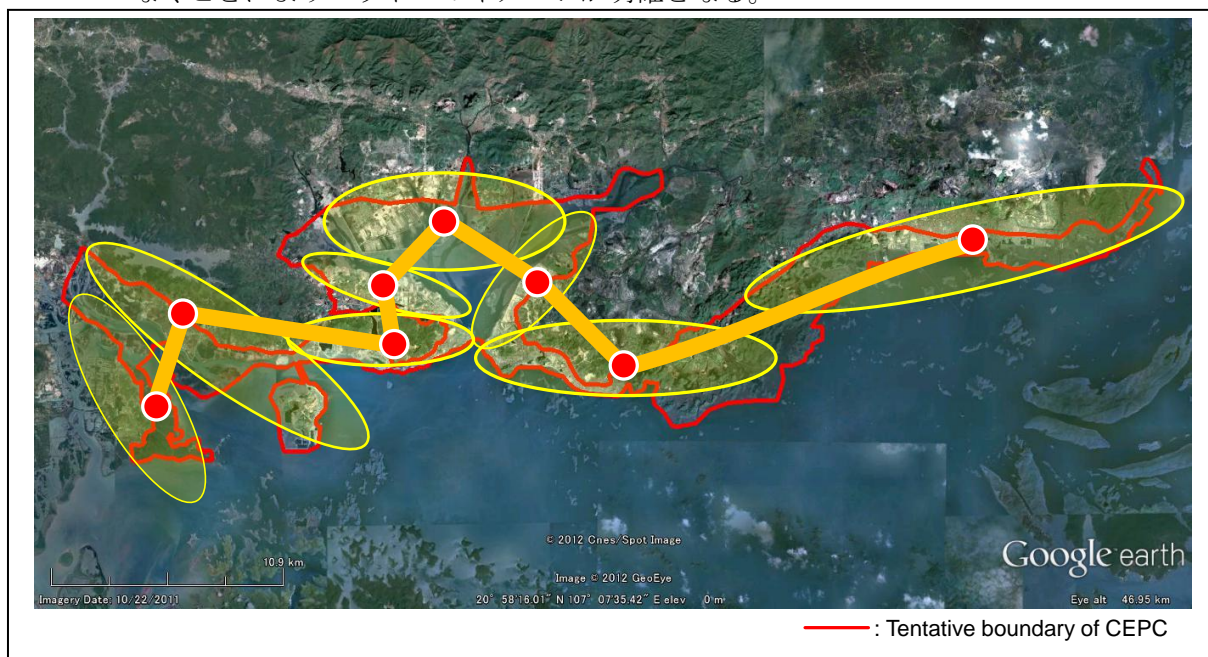
図 2-3-14 初期の CEPC のイメージ



出典：WG-2

図 2-3-15 CEPC の境界

上記の CEPC 地域は、図 2-3-16 に示すとように、地形的・社会経済的特性から 8 つのアクティブ管理ゾーンに分割される。これらのアクティブ管理ゾーンをつなぐことによりコリドールのイメージが明確となる。



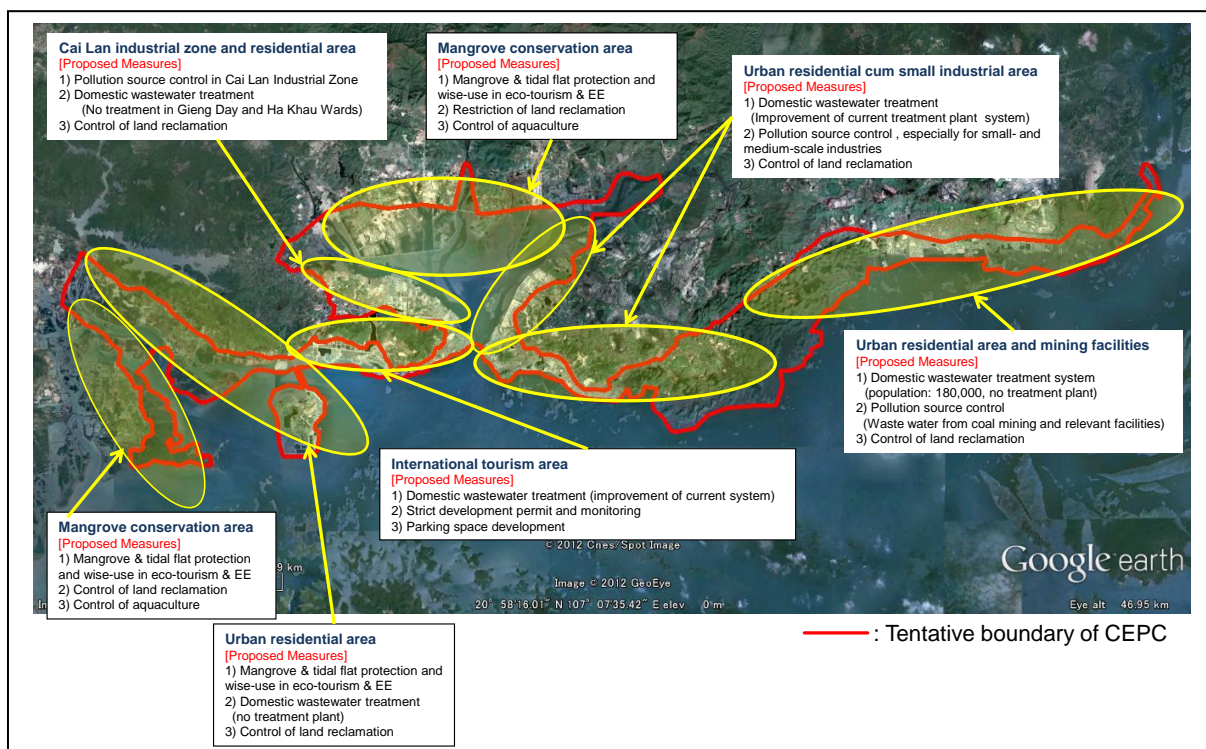
出典：WG-2

図 2-3-16 アクティブ管理ゾーンを連結した CEPC のイメージ

CEPC で実施すべき施策案として以下の 8 つが提案された。

- (1) 汚水処理と汚染管理
- (2) バイチャイ国際観光地区における厳格な開発許可とモニタリング

- (3) バイチャイ国際観光地区における駐車場整備
- (4) マングローブ及び干潟の保全とワーズユーズ
- (5) 水産養殖管理
- (6) 土地埋立て管理
- (7) 戦略的環境アセスメント(SEA)の土地利用計画策定時の実施強化
- (8) EIA 及び EPC の実施強化



出典：WG-2

図 2-3-17 各アクティブ管理ゾーンでの施策案

各提案施策の詳細については、「ハロン湾における持続可能な観光のための環境保全戦略」の添付資料-2の「ハロン湾における沿岸環境保全コリドーに係るアクションプラン案」に示す。

(3) 関係機関との現地踏査及び協議

ワーキンググループ協議に加えて、最新の沿岸環境保全コリドー対象地域の情報把握と情報収集、さらにコリドーにおける提案施策に関する意見徴収などのため、表 2-3-15 に示すように現地踏査及び関係機関との協議を特に 2012 年において集中的に実施した。

表 2-3-15 2012 年における現地踏査及び協議

No.	Date	Field Visit/Meeting	Participants
1	24 May	Meeting with Hoanh Bo District PC on the proposal of mangrove protection area	Hoanh Bo District PC and its DONRE, and JET
2	11 June	Field visit in Hoanh Bo District for the proposed mangrove protection area	Hoanh Bo District PC and JET
3	12 June	Field visit in Quang Yen Town for the proposed mangrove protection area	Quang Yen Town PC DONRE and JET
4	14 June	Field visit in Gieng Day and Ha Khau Wards, Halong City for the proposed domestic wastewater treatment system	Halong City PC and JET
5	17 June	Field visit in Bai Chay coastal tourism area to investigate the current tourism development condition	JET

No.	Date	Field Visit/Meeting	Participants
6	19 June	Field visit in the coastal area of Cam Pha City to investigate the current development condition	Cam Pha City PC DONRE and JET
7	21 June	Field visits in Deo Sen Landfill and Ha Khau Landfill sites	Halong City PC DONRE and JET
8	27 June	Field visit and meeting in Quang Yen Town for the proposed mangrove protection area	Quang Yen Town PC Economic Department and DONRE, PMB, WG-2, and JET
9	13 August	Meeting with DPI on the proposed Halong City Environmental Protection Project	Quang Ninh DPI and JET
10	16 August	Field visit in Hoanh Bo District for the proposed mangrove protection area	Hoanh Bo District PC and JET
11	30 August	Field visit in western Halong City for the proposed mangrove protection area	Halong City PC, Dai Yen Commune PC, WG-2, and JET
12	31 August	Meeting in Cam Pha City PC DONRE	Cam Pha City PC DONRE and JET
13	1 September	Field visit in Bai Chay coastal tourism area to investigate the current tourism development condition	JET
14	11 September	Field visit in Hoanh Bo District for the proposed mangrove protection area	Hoanh Bo District PC DONRE, relevant wards PC, and JET
15	14 September	Meeting with DOC on the proposed measures under the CEPC	DOC, WG-2, and JET
16	14 September	Meeting with CIENCO5 and facility visit on wastewater treatment system in their development area	CIENCO5, PMB, JET
17	19 September	Field visit and meeting in Cam Pha City to update development plans and on-going activities	Cam Pha PC DONRE, relevant developers, WG-2, and JET
18	20 September	Meeting with Halong URENCO to update information on current wastewater treatment system	URENCO, WG-2, and JET
19	25 September	Meeting with LICOGI2 and facility visit on wastewater treatment system in the development area	LICOGI2, PMB, JET
20	5 October	Meeting with Public Works Section of Halong City regarding the plan of wastewater treatment system in Halong City	Public Works Section of Halong City, WG-2, JET
21	26 October	Meeting with Hoanh Bo District PC on the proposal of mangrove protection area	Hoanh Bo District PC and its DONRE, and JET
22	30 October	Meeting with DOT on the proposed measure of parking space development and plan of social experiment	DOT, JET
22	2 November	Meeting with Special Forest Management Board of Halong City on field visit of the proposed mangrove protection area	Special Forest Management Board of Halong City, JET
23	6 November	Meeting with Environment Division of VINACOMIN on coal-related environmental measures	Environment Division of VINACOMIN, WG-2, JET
24	8 November	Field visit in the proposed mangrove protection area in Ha Khanh, Halong City	Special Forest Management Board of Halong City, JET
25	27 November	Meeting and joint field investigation on the preparation of the social experiment	DOT, DCST, Halong City, QN Provincial Police, PMB, JET
26	28 November	Meeting on the preparation of the social experiment	Vice-chairman of Halong City, Halong City, DOT, PMB, JET
27	28 November	Meeting on the preparation of the social experiment	Halong City Police Department, PMB, JET
28	30 November	Joint field investigation on the preparation of the social experiment	Halong City Police Department, Halong City, DOT, PMB, JET

出典：JET

**(4) ワークショップの開催**

WG-2 の活動の進捗状況の説明と関係機関からのコメントや意見を得るために 2012 年度は 2 回に亘るワークショップを以下のように開催した。

表 2-3-16 ワークショップの概要

Workshop	Date	Main Subject
3rd Workshop	24 October 2012	Draft proposal of measures in the proposed CEPC
4th Workshop	21 November 2012	Proposed mangrove protected areas under the CEPC

出典：JET

## 2.3.4 成果-4 (WG-3) : 環境・観光資源管理

### (1) WG-3 とのディスカッションミーティング

WG-3 は 2012 年 5 月から 2012 年 12 月までの期間、JICA 専門家と WG メンバーにより、合計 5 回のディスカッションミーティングを実施した。ミーティングの協議結果の概要は表 2-3-17 に示す。各ミーティングの詳細はプロジェクト事業完了報告書に添付した。

表 2-3-17 WG-3 ディスカッションミーティングの概要(2012年5月～2012年12月)

Sequence No.	Date, Venue, and Attendants	Contents	Major Comments by WG-3	Actions of C/P and JET
16th	6 June 2012 Meeting room in DONRE [Attendants] 4 persons from the VN side and 6 from JET	Presentation of the outline and work schedule of the strategies and measures for sustainable tourism development in Halong area Discussion on the preparation of strategies and measures	1) The proposed measures are only names without specific contents. 2) The proposed measures should avoid overlapping with proposals related to measures by other WGs. Strategy 5 (raising the awareness on the environment and environmental protection) is overlapping with strategy for WG-4. Strategy 7 (PR and marketing) should be combined with Strategy 2 (promotion of ecotourism). 3) Master Plan for tourism development in QN for 2020 is the guideline for the operation of the tourism sector of QN, but it is not approved. 4) Strategy 4 (enhancement of values of WHS) should not be a separate strategy, because after the implementation of other strategies, the value of WHS of Halong Bay will be improved. 5) Special tourism attractions should be developed at each area in Halong.	1) Contents of the measures will be prepared by JET after all measures have been agreed upon by the WG members. 2) WG members are responsible for the review of the proposed measures to avoid overlapping as well as adding of measures if necessary. JET will confirm with WG-3 regarding Strategy 5. 3) JET will arrange the request for the provision of the Master Plan from DCST through PMB. 4) JET agreed to combine Strategy 4 into the other strategies. 5) Strategy 2 was renamed as “development of sustainable tourism product” based on the comments of WG-3. WG members have agreed for the proposed seven measures to be combined and be reduced into five strategies after the discussion. 6) JET and the local expert will prepare the detailed contents of measures in accordance with the proposed measures.
17th	27 July 2012 Meeting room in DONRE [Attendants] 3 person from the VN side and 4 from JET	Presentation of the result of the training programs in Japan Presentation of the draft strategies and measures for sustainable tourism development in the Halong area Discussion on the draft strategies and measures Explanation on the sub-contract work for the tourist questionnaire survey	1) It is not necessary to have at least three measures for each strategy as indicated in the PDM. It is important to propose practical and applicable measures. 2) Some measures should be combined with other measures such as measures 1-1A with 1-1B, measures 3-2A with 3-2B, and measures 4-2A with 4-2B. 3) Measures 4-4B, 4-6C, and 5-2B should be deleted. 4) It is recommended to add the following measures: (1) “Improvement of institution for sustainable tourism management in the Halong area” in Strategy 1, and (2) “Development of automatic environmental control and warning measures in estuaries” in Strategy 2. 5) It is necessary to construct the new visitor center for the receiving and guiding of all visitors upon arriving in Halong. This center should be located in Bai Chay or Tuan Chau area. 6) WG members will recommend an appropriate candidate in the locality for the sub-contract work of the tourist questionnaire survey. Remark: Measure 1-1A: Preparation of the zoning plan for tourist development in Bai Chay and Hong Gai areas	1) JET agreed to the comment that the proposed measures should be practical and applicable. 2) JET will combine some measures referring to the comment. 3) JET will reconsider to delete measures 4-4B, 4-6C, and 5-2B. 4) “Improvement of institution for sustainable tourism management in the Halong area” can be one of the important measures for Strategy 1 as commented by WG. JET asked WG to prepare the contents of the “development of automatic environmental control and warning measures in estuaries” for Strategy 2. 5) JET agreed to include the “development of visitor center” as an additional measure in Strategy 4 taking into consideration of the needs. 6) WG members should inform the name of the appropriate candidate for the sub-contract work as soon as possible due to the time constraint for selecting from the shortlist of the candidate sub-contractors.

Sequence No.	Date, Venue, and Attendants	Contents	Major Comments by WG-3	Actions of C/P and JET
			1-1B: Preparation of the management guideline for the zoning areas in Bai Chay and Hong Gai areas 3-2A: Development of nature and ecotourism guide certification scheme and training curriculum 3-2B: Training of nature and ecotourism guide 4-2A: Guidance on applying Green Lotus Eco-label for tourism accommodation facilities in the Halong area 4-4B: Promotion for Green Lotus Eco-label for tourism accommodation facilities in the Halong area 4-6C: Renovation of the existing Quang Ninh Museum with installation of modernized presentation system 5-2B: Development of the new website for the Halong area for sustainable tourist destination including tourism resources, facilities, tourism products, and tourism transportation in the Halong area	
18th	7 August 2012 Meeting room in DONRE [Attendants] 4 persons from the VN side and 5 from JET	Further discussion on the revised strategies and measures for sustainable tourism development in the Halong area Presentation of the tourism resource database, and training Work plan and tender schedule for the sub-contract work of the tourist questionnaire survey Work schedule of WG-3 in the next period	1) There are many proposed measures in the draft strategies and measures for sustainable tourism development. Therefore, it will be difficult to implement all measures. The key measures should be selected as priority measures to be implemented. 2) Currently, HBMD is under the re-organizing management structure. Proposed measures under the responsibility of HBMD should consider the functions and duties of the restructured HBMD. 3) Proposed measures 1-2A and 1-2B have similar contents; thus, they should be combined into one measure. 4) Regarding measure 4-4A, in addition to the upgrading of the existing toilet, new toilets should be constructed at the tourism sites, and collection and treatment of wastewater at the tourism sites should also be proposed. 5) Proposed measure 4-4B is very important, thus, it should be one of the priority measures and it should have a separate approach in Strategy 2. 6) WG-3 members agreed on the proposed work plan of the sub-contract work and tender schedule for the tourist questionnaire survey. Remarks: 1-2A: Formulation of regulation on the promotion of Eco-tourism in Quang Ninh 1-2B: Formulation of legal and institutional framework, incentives, policies, and programs for sustainable tourism development in the Halong area 4-4A: Improvement, maintenance, and management of the toilet facilities for tourist at the tourist sites and floating villages in Halong Bay, and Bai Chay area 4-4B: Upgrading the operational capacity of the local wastewater treatment facility	1) According to the PDM, at least three measures in each strategy will be selected as priority measures based on the result of the evaluation criteria for the prioritization of measures at the discussion meeting. 2) JET suggested that a member from HBMD in WG-3 will be responsible for the review of proposed measures related to HBMD. If the proposed measures related to HBMD are not appropriate in terms of the functions of the HBMD after the restructuring of the organization, other suitable department will implement the measures. 3) JET commented that measures 1-2A and 1-2B are different in terms of content. JET will reconsider the possibility of combining these measures. 4) JET agreed to include the construction of a new toilet in the content of measure 4-4A. JET will reconsider the suggested collection and treatment of wastewater at the tourism sites. 5) JET agreed on changing approach 4-4 into approach 2-3 in Strategy 2. 6) JET asked the WG members to support the implementation of the tourist survey after the sub-contractor is selected. The local expert is responsible for the supervision and monitoring of the sub-contract work.
19th	22 October 2012 Meeting room in DONRE [Attendants]	Revised strategies and measures for sustainable tourism development in the Halong area Explain the tourism	1) Comments on the revised strategies and measures are as follows: -Approach 1-1: "Halong Bay" should be changed to "Halong Area". -Draft relocation plan for the people in the	1) JET will reconsider the comments and recommendations received from WG-3 members for the plan of revision. Regarding the three measures

Sequence No.	Date, Venue, and Attendants	Contents	Major Comments by WG-3	Actions of C/P and JET
	4 persons from the VN side and 4 from JET	resources database (TRD) and conduct training on the operation of the TRD Possible comments to the Project outline for the further development of eco-label prepared by ART Vietnam Draft analysis on the tourist survey by questionnaires	floating fishing villages in Halong Bay was prepared by the Halong PC in September 2012. The three proposed measures in Approach 3-3 will be directly affected by the relocation plan. -The target area for measure 3-4A should cover the "Halong Area". - Work for measure 3-4B (upgrading the operational capacity of the local wastewater treatment facility) should cover the wastewater collection system. -"PR" used in the titles and contents for measures should be replaced with "propaganda". 2) WG-3 member from DPI explained the actual procedure for the review and approval of the proposal by the relevant departments and sectors. 3) Regarding the visualization of the strategies, WG-3 member commented that only one or two measures from each strategy should be visualized instead of visualizing all the strategies. 4) WG-3 agreed to transfer the database to DCST, but detailed discussion with the responsible section of DCST is necessary. 5) WG-3 commented on the draft project outline and letter of proposal for further development of eco-label for tourist boat that the review and revision are basically for the contents of the project outline.	mentioned in Approach 3-3, JET is aware of the relocation plan but the proposed measures should be kept in the proposal. 2) JET clearly understood the actual procedures for the review and approval of the proposal as explained by WG-3 member. 3) JET sent the completed visualization of the strategies to the WG-3 members for their review and comment. 4) JET reviewed and revised the Project outline for the further development of the eco-label for tourist boat based on the comments of the WG-3 members with support from the local expert.
20th	3 December 2012 Meeting room in DONRE  [Attendants] 3 persons from the VN side and 4 from JET	Final confirmation of the revised strategies, measures, and implementation plan for the sustainable tourism development in Halong area Explanation on the updated user's manual for tourism resources database (TRD), and conduct of training on the operation of the TRD Explanation on the report on the analysis of tourist questionnaire survey	1) The following comments were made by WG-3 members: - In section 1.1 (Vision of the proposal), with the Vietnamese translation of the vision "Reconciliation of tourism development and environmental protection in the Halong area", the word "between" will be added after "reconciliation". -In section 1.2 (Goal), it is confirmed that the goal is "Shift from mass tourism to sustainable tourism (low impact tourism)". It is suggested that the words inside the parenthesis should be removed. - WG-3 members and JET agreed that all measures for the floating villages should still be maintained but they should not appear in the list of priorities (1.5.3 Implementation Plan and Priority Measures). -WG-3 members also requested JET to report this fact in the CEM meeting. -Regarding measure 3-2-1, the targets are to be changed to cover not only the residents in the floating villages, but also the people working on the bay. This measure should not be in the list of priorities. 2) WG-3 members agreed to add a description for the process of selection of 22 sites for the tourism resource inventory in the TRD manual. 3) WG-3 member commented that all WG-3 members should be properly trained for the operation of the TRD.	1) JET will update the comments in the proposed strategies and measures. JET also reminded the WG-3 members again to contribute their comments after further study of the documents. 2) JET explained the prepared proposals which consist of the proposed strategies and measures for the sustainable tourism development in the Halong area. ii) The summary of strategies and measures for the sustainable tourism development in the Halong area with visualization explanation is the most important output of the Project. This output is included in the "Proposal of Environmental Protection for Sustainable Tourism Strategy in Halong Bay" which is submitted to the PPC. 3) JET will discuss and prepare a training program for the transfer of the technique for the TRD with support from the local expert and Mr Phuong, as well as technical assistance from JET. JET instructed that the head of WG-3 should check, the availability of the WG-3 members and confirm the date for the training as soon as possible.

出典：JET

## (2) 2012 年度の活動内容

成果 4 では 2012 年度において、ハロン地域の持続可能な観光のための施策の立案能力向上を図るため、以下に示す活動内容を WG-3 のメンバーと一緒に計画、実施した。成果 4 の活動の準備、実施に関して、パイロットプロジェクトやハロン地域の持続可能な観光開発のための戦略、施策など、他の WG、関連ステークホルダーの参画や協力を受けた。

第3年次 (2012年4月-2013年12月)

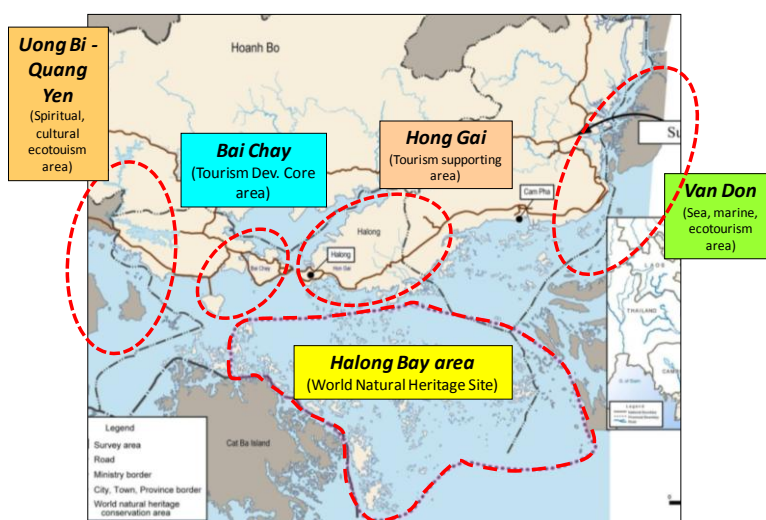
- ・ ハロン地域における持続可能な観光開発の施策、戦略策定のための作業計画の作成
- ・ 観光資源データベースの改善、更新
- ・ 観光資源データベースの利用者マニュアルを活用した観光資源データベースの運用・管理のトレーニング
- ・ 観光客質問票調査の実施 (再委託業務)
- ・ 関連計画、プログラム、環境保全、観光開発に関する最新情報、データのレビュー
- ・ 実施した活動結果の踏まえた戦略、施策案、実施計画の作成
- ・ PMB、CEM による戦略、施策案、実施計画のレビュー
- ・ クアンニン省人民委員会へのハロン地域の持続可能な観光開発のための戦略、施策の提出

## (3) 観光開発ローカル専門家の雇用

JICA 専門家チームでは本プロジェクトのローカル学識者グループ(VSG)のメンバーとして、2名の観光開発ローカル専門家を本プロジェクト期間中雇用し、主に WG-3 の活動への支援を行った。

## (4) クアンニン省の観光開発の方向

クアンニン省の観光開発のための既存の政策、計画のレビュー、分析を行い、Uong Bi-Quang Yen 及び Van Don 地区などの含む 5つのエリアが持続的な観光開発、観光振興を行う重点観光地域であることが確認された。(図 2-3-18 参照。) 本プロジェクトの成果 4 では、ハロン湾、バイチャイ、ホンガイ地区及びそれらの周辺地区を主に対象として、観光資源のデータ、情報の収集、観光資源データベース作成のための観光資源、自然環境の分析、ハロン地域の持続的な観光開発のための戦略、施策の策定作業を行った。



出典：JET

図 2-3-18 クアンニン省の観光開発の方向

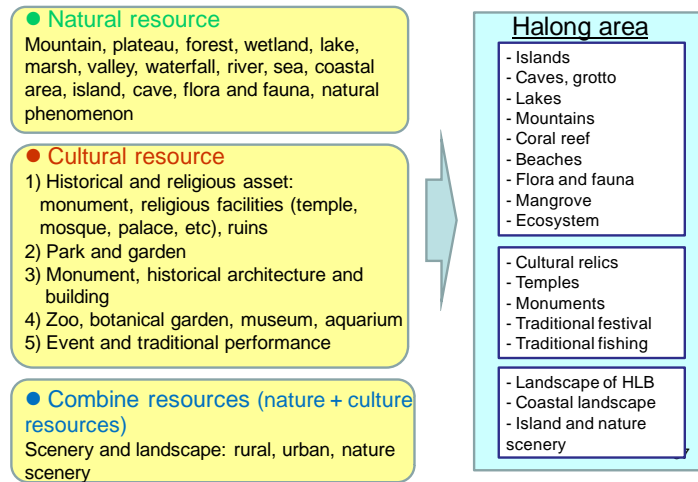


(5) ハロン地域の観光資源、観光客、観光業を含む観光セクターの分析

ハロン地域の観光セクターの分析は成果4の重要な作業の1つである。ハロン地域の観光資源、サイトのデータ、情報の収集作業を実施した後、ハロン地域内で選定した観光資源、サイトを対象として、WG-3メンバーとJICA専門家により、現地調査を実施した。観光客、観光マーケット（観光業）の調査、分析は後述する再委託業務による観光セクターのベースライン調査を通じて実施した。

(5) 環境・観光資源の分類、及び観光資源インベントリの作成

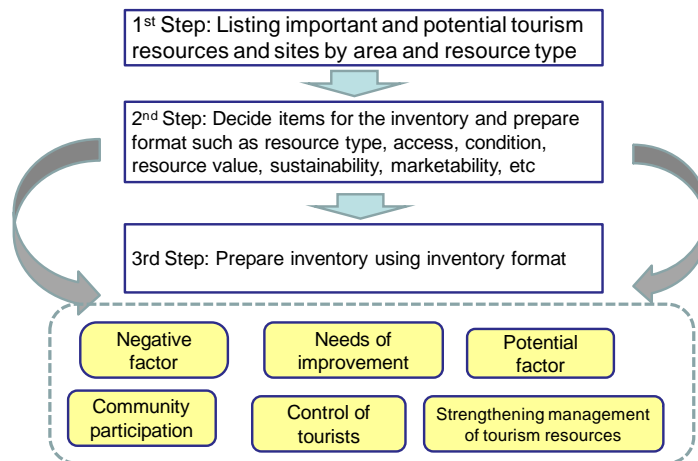
ハロン湾には特に島、洞窟など、多くの自然、観光資源が点在する。ハロン地域の既存自然、観光資源について、図2-3-19に示す観光資源の基本分類に従い、自然資源、文化資源、自然と文化の混合の3つに分類した。自然、観光資源の分類は観光資源のインベントリ作成の準備作業である。



出典：JET

図 2-3-19 自然、観光資源の分類

WG-3メンバーは図2-3-20に示す観光資源インベントリ作成手順に従い、観光資源インベントリの作成を行った。観光資源インベントリは観光資源データベースの開発のために必要な要素（基本データ）の1つである。



出典：JET

図 2-3-20 観光資源インベントリ作成手順

(6) 観光資源インベントリーの作成

2つの形式の観光資源インベントリーフォームを作成した。各フォームの記入欄に入力にあたっての説明を追加した。観光資源インベントリーフォームはハロン地域の現地調査で観光資源、サイトのデータ、情報収集のために実際に活用した。

1) 観光資源インベントリー (全体地域)

観光資源インベントリー作成での対象地域は主にハロン湾及びハロン市とした。観光資源インベントリーフォームの内容は以下に示す。(インベントリーフォームはハロン地域の持続的な観光開発のための観光資源データベースユーザーマニュアルを参照。)

a) 自然環境特性

- 位置
- 地勢、景観天候、気候

b) 自然観光資源

- 陸地の観光資源：島、洞窟、海岸
- 水域の観光資源：水上観光資源（湾、湖、湿原他）、水中資源（鉱泉、サンゴ礁、マングローブ他）
- エコシステム：熱帯常緑林エコシステム（植物、動物）、海洋・沿岸エコシステム（マングローブ、海藻、サンゴ礁他）

c) 文化観光資源

- 有形文化観光資源：歴史的建築物、建物、遺跡、遺産、工芸品
- 無形文化観光資源：伝統舞踊、祭事、慣習、伝統文化、生活様式、宗教、歴史

ハロン地域の観光資源インベントリー (全体地域) は観光資源データベースユーザーマニュアルの添付1を参照。

Natural environmental characteristics

Types of resources/ Sites	Descriptive information and data		
Surveyed location: Halong Bay and its vicinity of Halong City			
1. Natural environmental characteristics			
1.1. Location	In the sea, North East of Vietnam, on the west coast of the Gulf of Tonkin. It lies on the area of Ha Long City, Cam Pha town and part of Van Don island district, Quang Ninh province. It borders to Bai Tu Long Bay (to the North East), Cat Ba Island (to the West) and land to the West and Northwest. It has 120 km coastline. Geographic coordinates: 106°58' - 107°22' East longitude and 20°45' - 20°50' North latitude.	ins with the height 100 - 200m in various - Mai Isle (fighting cocks), Lu Hoang Isle, contains partly with soil area where exist ter, underground water sources, high tourism development.	Cultural tourism resources
1.2. Topography	Small bay, area of 1,553 km <sup>2</sup> . The Heritage area is 434 km <sup>2</sup> . Average depth: 5 - 10m, except for Cao Lac Estuary: 20m, The Vang Channel: 27m. Tectonic process of 300 - 500 million years (Carbon - Permian period with deep sea and Oclovic - Silua period with shallow sea). Groups of lime stone mountains of pyramid shape lie together with peak of 100 - 20m. Karst field, ancient cave, karst cave, frog shape entrance.	th colorful salicities, shapes such as Nu, Ba Nui, etc. sand, smooth waves which are suitable for sun etc., Two famous beaches attracting p. h as: Ba Ham Lake, Ba Hung. - Salinity 21‰ - 22‰, (Rain season) and most value resource is Quang Haah hot of various diseases.	Cultural tourism resources
1.3. Weather and climate	Humid tropical climate with two seasons separately: hot and humid summer with average temperatures: 27 - 29°C; dry cold winter with average temperatures: 16 - 18°C. Rainfall: 2,000 to 2,200 mm/year.		Cultural tourism resources
2.3. Ecosystem			
2.3.1 Tropical evergreen forests	The flora has about 507 species, 351 genera of 110 families of kormobionts, including 17 endemic plant species such as: Ha Long saraparilla (Ngu gia bi), Ha Long palma, Ha Long cayan revoluta, Chirtia halogensis, Ficus superba var. alongensis, Altophyta leviscens, Alpinia calcicola, etc. The fauna has 66 species of reptile and amphibian, 71 bird species and 22 types of animals.		Cultural tourism resources
2.3.2 Marine and coastal ecosystems	- Mangrove Ecosystem: 19 species of plants and nearly 500 species of animals - Sea grass ecosystem: 17 species of algae and 17 species of benthos - Rock reef/litoral ecosystem around limestone islands: 423 species of including algae, coral (10 species), snail (60 species), sea snake, varam, sea bird, onoz, etc. - Sand beach circumlitoral ecosystem in coastal islands: 116 species - Coral reef ecosystem: 234 corals belonging to 4 classes - Karst lagoons ecosystem - Aquatic ecosystem		Cultural tourism resources
3. Cultural tourism resources			
Tangible cultural tourism resources			
1. Architects, temples			- Long Tien Temple: built in 1941 with sculptural style of the Nguyen dynasty
2. Relicts and monuments			- Soi Niu Culture: 18,000 years - 7000 years, concentrated mainly in the caves of Me Cong, Thien Long and Tien Ong. - Cai Bui culture: 7,000 years - 5,000 years, concentrated mainly in the areas of Cai Bui, Ha Giat, Giap Khan. - Ha Long culture: 4,500 years - 3,500 years, concentrated mainly in the areas of Soi Niu, Ngoc Vang. - Poem mountain relic: where the poem composed by King Le Thanh Tong was carved on the wall of the mountain. - Dau Go Cave: where wooden stakes were hidden, they were used in a victory battle by the Tran dynasty against the Mongol. A stone stele carved the essay by King Khai Dinh.
3. Crafts			Coal carving village in Ha Long City, specialised in production of sophisticated souvenir items such coal lion, Trong Mai Isle, etc. ...
Intangible cultural tourism resources			
1. Festivals			- Cua Ong Pagoda Festival: lasts for 3 months starting from 4 <sup>th</sup> January in Lunar calendar. Main Festival day is 3 <sup>rd</sup> February in Lunar calendar. The pagoda is to worship the Prince Hung Vuong Tran Quoc Tang. - Ha Long Carnival Festival is held every two year, toward the end of April early May, this cultural event attracts tourists with a variety of activities such as marching, art performance, food festivals, etc.
2. Customs and styles			- Fishing - The method of traditional fishing - Chinese Traditional New Year

出典：JET

図2-3-21 ハロン地域の観光資源インベントリー (全体地域)

## 2) 観光資源インベントリー（個別サイト）

ハロン地域には多くの自然、観光資源、サイトが存在する。観光資源データベースの初期開発として、インベントリーを作成するために、以下の基準に従い、ハロン湾内の観光資源、サイトを選定した。

- ・ 観光客に対する人気度（集客率）
- ・ 観光資源/サイトとしての経済価値
- ・ 観光、経済活動による観光資源/サイトへの負のインパクト要因、予期される負のインパクト
- ・ 潜在的なエコツーリズム活動、ツアー商品




観光資源現地調査の実施後、WG-3ではディスカッションミーティングを開催し、インベントリー作成のため、下記の22ヶ所の観光資源、サイトを選定した。それらの観光資源、サイトは初期開発の個別サイト観光資源データとして活用する。

Thien Cung洞窟, Dau Go洞窟, Cho Da島, Lu Huong島, Ba Hang漁村, Trong Mai島, Bai Chay海岸, Tuan Chau海岸, Soi Sim島, Titop島, Bo Nau洞窟, Sung Sot洞窟, Me Cung洞窟, Trong洞窟, Trinh Nu洞窟, Cua Van漁村, Tien Ong洞窟, Ba Ham湖, Cong Dam 漁村, Quyen Rong島, Cong Do島, Vong Vieng漁村

インベントリーフォームには以下の項目を含める。（インベントリーフォームは観光資源データベースユーザーマニュアルの添付2を参照。）

- ・ 資源名
- ・ 資源分類（自然、文化）、サブ分類（水域、陸地、生物多様性）
- ・ 位置
- ・ サイト管理主体（組織）
- ・ アクセス
- ・ 自然科学的、美的価値
- ・ 経済的価値
- ・ 環境及び環境保全
- ・ 観光施設、サービス、環境保全施設 s
- ・ 写真

22ヶ所の個別観光資源インベントリーは観光資源データベースユーザーマニュアルの添付2を参照。

Name of the resource	7. Cua Van fishing village		issues	waste volume of about 0.5 tons per day is discharged, the collection includes also floating waste of some 0.4 tons/day (equivalent to about 25m <sup>3</sup> /month). Wastes from households are collected every 2 days with the daily collection of floating wastes are delivered by boats to Ti Top island for drying and burning afterward. - Domestic wastewater from households in village is estimated around 40m <sup>3</sup> per day which is discharged directly into the sea without treatment.
1. Category	(x) Nature (x) Culture	2. Sub-category	(x) Water based (x) Land based ( ) Biodiversity	- Significant facilities on fishing village: Floating cultural center, a floating school for grade 1 to grade 5 with approximately 70 pupils and a small pagoda for religious purpose. - On environmental protection: + Each household has a basket or reuse of a foam box as waste bin. + Availability of workers in charge of collecting garbage and floating wastes. + Recently, many dissemination activities for environmental protection have been implemented at Cua Van Fishing Village such as propaganda on no littering into the sea, replacement of styrene foam by composite or plastic materials for building houses and some other Eco-boat related activities.
3. Location	- Cua Van Fishing Village is located in the World Natural Heritage of Halong Bay, Ha Long City, Quang Ninh Province. - It is the about 20km Southeast of Bai Chay Tourist Boat Station.		9. Tourist facilities and services; Environmental protection facilities.	 <p>Photo of a part of Cua Van Fishing Village, viewing from the above (Collected)</p>   <p>Photo of people and daily routine at Cua Van Fishing Village (Collected)</p>
4. Site management body	- Under administrative area of Hung Thang Ward; - Management agency: HBMD			
5. Accessibility	- One of the fascinating tourism sites, under tourism route-3 of the sightseeing routes of Halong Bay. - Tourists can visit the point all year-round. Visitors can join package tour or free-travel tour (tickets are sold at Bai Chay Tourist Boat Station). - By high speed motor boat: about 30-40 minutes from Bai Chay Tourist Boat Station. - By normal tourist boat: about 2-3 hours from Bai Chay Tourist Boat Station.		10. Photos	
6. Outstanding scientific and aesthetic values	* Scientific value: high. Hundreds of archaeological objects which used to be instrument and means for fishing by the ancient Vietnamese were found. * Cultural value: - Bearing vivid cultural feature of the Vietnamese ancient fishing village. - Cua Van fishing village is originated from two ancient fishing villages as Giang Vong and Truc Vong. - The culture of Vietnamese ancient fishing village is displayed at the Floating Cultural Center of Cua Van fishing village by models with 6 main themes: (i) Nature and human; (ii) Livelihood of the fishermen; (iii) Physical life of fishermen; (iv) Marine residence with human life; Spirit with spiritual life; and (vi) For today and for future generations. Thereby, visitors can understand the traditional activities as well as have exchange between local communities and tourists; and visitors could see by their own eyes and learn from hundreds of archaeological objects including the tools and means of fishing of the ancient Vietnamese and many pictures, television documentaries, publications on folk culture as well as about the life of the residents living on Halong Bay in the old time and nowadays. * Aesthetic value: outstanding image is the houses located on the styrene foam, plastic raft and wood or bamboo boats anchoring in front of the floating house, the houses tied up together to against storms.			
7. Outstanding economic values	- According to a survey in September 2011, Cua Van fishing village has about 600 people, 133 households. - Cua Van floating Fishing Village is considered one of the attracting sites, and is under development as models of community tourism. - In 2011, the number of tourists visiting Cua Van fishing village was estimated 2,500 visitors / month. This is the site charged with ticket of 10,000VND/ticket (ticket price of 2011). In addition, tourism turnover in Cua Van fishing village also obtained by rowing services around the village. Average income is about 3 million VND / household / month in estimation. - Labour structure: 50% of labour for fishing, 50% of labor for tourist services activity (rowing). In addition, aquaculture is also carried out in the village (90%).			
8. Environmental and conservation	- Drifted garbage is seen on the environment. - Domestic waste: according to estimation based on the number of population, an average			

出典：JET

図2-3-22 個別観光資源インベントリー (Cua Van漁村)

(7) 観光資源データベースの開発

1) 観光資源データベースの目的

- 観光資源の分類、評価、観光資源のデータベース作成、周辺環境へのインパクト、それらデータ、情報の分類
- ハロン地域の持続的な観光開発の戦略、施策、計画の準備及び作成のためのデータ、情報の活用作業のためのデータ、情報
- 関連政府機関への観光商品開発、観光マーケティング、プロモーションのために必要なデータ、情報の提供
- 観光資源データベース、観光客、観光ガイドのトレーニングのために必要な観光データ、情報の提供 (さらなる観光資源データベース)

2) 観光資源データベースの構成

- ハロン地域の観光資源インベントリー
- 観光資源データのリスト (表形式)
- 観光資源評価
- ハロン湾の観光資源位置図及び関連データ (Word program の Hyperlink 及び ArcGIS で作成)
- ハロン地域の観光施設の位置図及びデータ (ArcGIS で作成)

- 写真データ
- 観光資源データベースユーザーマニュアル

### 3) 観光資源データリスト

観光資源データリストは作成した22の個別観光資源のデータ及び情報を取り纏めたリストである。リストはエクセルで作成し、観光資源別に18項目（登録番号、名称主分類、サブ分類、位置、アクセス、自然科学・美的価値、経済的価値、観光施設、サービス、観光ルート（観光船ツアーなど）が整理されている。リストはリスト内の情報、データについて、簡易的に検索、分類、抽出、確認、アップデートすることができる。（作成したリストは観光資源データベースユーザーマニュアルの添付4を参照。）

(1) Registered No.	(2) Name	(3) Main category	(4) Sub-category	(5) Location	(6) Coordinates of the location	(7) Accessibility	(8) Natural resource tourism value	(9) Landscape	(10) Cultural and historical value	(11) Economic value	(12) Tourist facilities and services	(13) Environmental impact and condition	(14) Environmental protection	(15) Tourism Route	(16) Visitor data	(17) Site management body	(18) Date of data input and update and
1	Thien Cung Grotto	Natural resource	Land-based	4km from Bai Chay Tourist Boat Station, in Southwest of Halong Bay, Inland on the Dan Go island	20° 57' 30. .N 106° 28' 52. .E	A	A	B	A	B	B	B	A	Route 1	Total number of visitor in 2010: 1,038,762 (48.6% of the total visitors to tourist sites in Halong Bay) Number of visitor in Aug., 2011: 73,339 (Vietnamese), 83,862 (Foreign)	Halong Bay Management Board (HBMD)	28-Nov-11
2	Cho Da islet	Natural resource	Land-based	Sea Dao Go cave, on the West, approximate 4km from tourist wharf	20° 54' 30.55"N 107°04' 50.14"E	A	C	B	C	C	C	A	C	Route 1		HBMD	
3	Dinh Huong Island	Natural resource		On the South West of Dan Go Cave, approximate 4km from tourist wharf	20° 54' 01.68"N 107°00' 57.55"E	A	C	B	C	C	C	A	C	Route 1		HBMD	
4	Dan Go Cave	Natural resource	Land-based		20° 54' 39.26"N 107°01' 08.11"E	A	A	B	A	A	A	B	A	Route 1	In 8/2011, total number of tourists who requested for tourist guide service visiting Dan Go cave is 1933 delegations. In addition, there are tourists visiting the cave in free style without the need of tourist guide.	HBMD	
5	Tirow Island	Natural resource	Land-based		20° 51' 32"N 107°04' 51"E	B	A	A	A	A	A	C	A	Route 2		HBMD	
6	Soi Sim	Natural resource	Land-based		20° 50' 55.36"N 107°04' 26.36"E	B	B	A	D	B	A	C	A	Route 2		HBMD	
7	Mé Cung	Natural / Cultural resource	Land-based		20° 50' 06.44"N 107°05' 02"E	B	B	B	A	C	C	C	A	Route 2		HBMD	
8	Sung Sot cave	Natural resource	Land-based		20° 50' 58.38"N 107°05' 27.88"E	B	A	A	D	A	A	B	B	Route 2		HBMD	
9	Bo Nau Cave		Land-based		20° 50' 52.7"N 107°05' 17.64"E	B	A	B	B	C	C	C	A	Route 2		HBMD	

出典：JET

図2-3-23 観光資源データリスト

### 4) 観光資源評価

観光資源データベースのための個別観光資源は以下の指標に従い、評価を行った。アクセス

- 自然観光価値
- 景観
- 文化、歴史的価値
- 経済的価値
- 観光施設、サービス
- 環境へのインパクト
- 環境保全

評価基準は3つにレーティング（A、B、C）と3つの加点（1、2、3）形式とした。評価したデータにより、評価項目別、資源間で観光資源の現状を比較、把握することができる。更にそれらの評価データは観光資源/サイトの改善、開発、環境状況、環境保全の促進などの検討作業に活用することができる。観光資源の評価指標、評価結果は観光資源データベースユーザーマニュアルの添付5を参照。

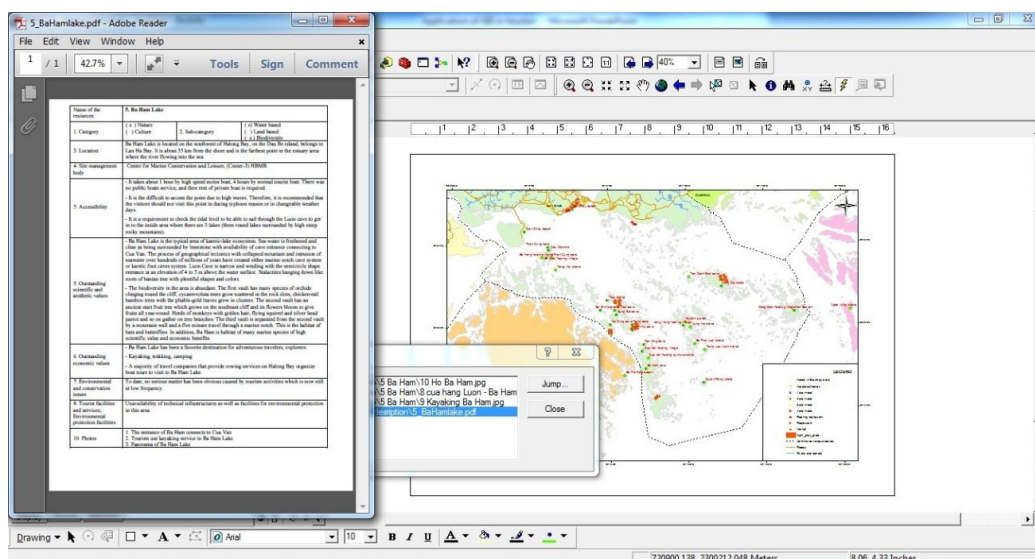
	Name	(1) Accessibility	(2) Nature tourism value	(3) Landscape	(4) Cultural and historical value	(5) Economic value	(6) Tourist facilities and services	(7) Environmental impact and condition	(8) Environmental protection	Overall point	Overall rating
1	Cong Do Islet	B	A	A	C	B	C	A	A	18	B
2	Cong Dam floating village and its vicinity	B	C	C	A	B	B	A	A	17	B
3	Vong Vieng fishing village	A	C	B	A	A	A	A	A	21	A
4	Quyem Rong Islet	B	B	A	C	B	C	A	C	15	B
5	Ba Ham Lake	C	A	B	C	B	A	A	A(*)	18	B
6	Tien Ong Cave	A	A	C	A	B	A	A	B	20	A
7	Cua Van fishing village	A	C	B	A	A	A	B	A	20	A
8	Trinh Nu (Virgin) Cave	A	A	B	A	B	C	A	A(*)	20	A
9	Trong (Drum)Cave (Hang Trống)	A	B	B	A	A	A	A	A(*)	22	A
10	Thien Cung Grotto	A	A	B	C	A	A	B	A	20	A

出典：JET

図2-3-24 観光資源の評価

5) ハロン湾の観光資源位置図及び関連データ (Word programのHyperlink及びArcGIS で作成)

観光資源位置図にはハロン湾の選定した22の観光資源、サイトが含まれる。データベースに利用者はワードプログラムで作成した観光資源データベースシステムのHyperlinkあるいはArcGISで作成した観光資源データベースシステムの観光資源位置図から観光資源の正確な位置を確認することができる。地図上の観光資源を選定した後、選定した観光のインベントリーや写真を見ることができる。またArcGISで作成した地図はツアールート、観光客向けのツアーの計画、観光資源地図の作成に活用することができる。



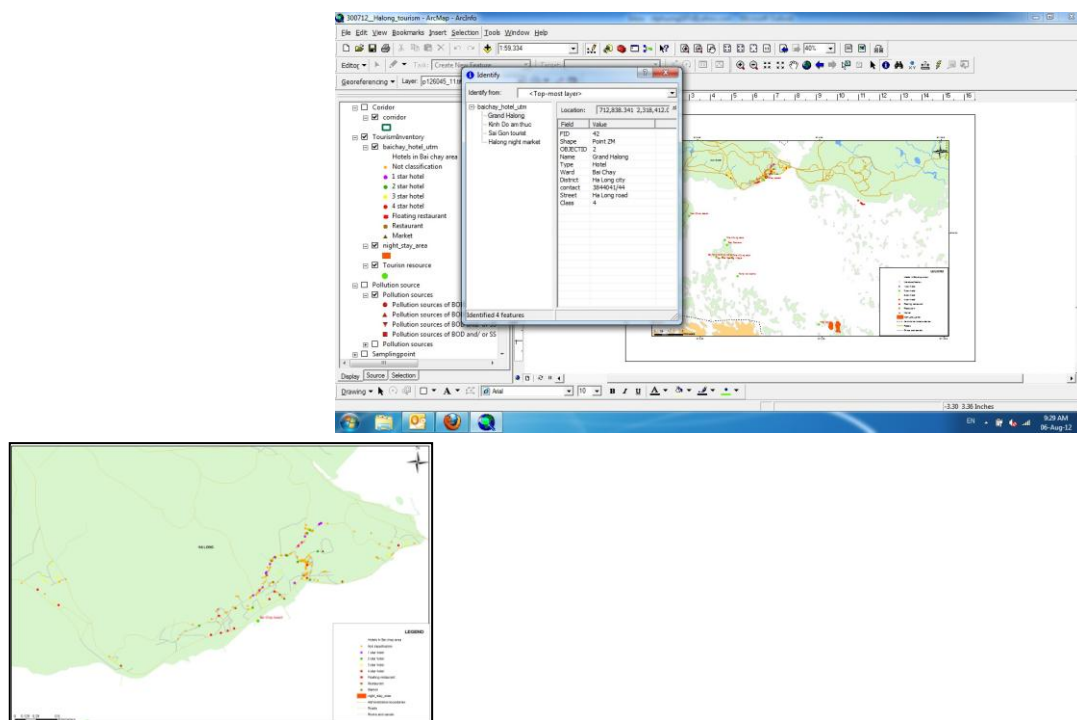
出典：JET

図2-3-25 ArcGISで作成した観光資源位置図から選定した観光資源データ

6) ハロン湾の観光施設の位置図及びデータ (ArcGIS)

観光施設の位置及びデータにはハロン市のバイチャイ地区の主な宿泊施設 (ゲストハウス、スタンダード、格付けホテル)、レストラン、水上レストラン、土産物店が含まれる。利

用者はArcGISで作成した地図上から観光施設の位置を確認することができる。地図上から必要な観光施設を選定した後、利用者は観光施設の基本情報（名称、住所、クラス（ホテル）、規模）をチェックすることができる。作成した地図は観光情報地図の作成に利用することができる。



出典：JET

図2-3-26 ArcGISで作成した観光施設位置図から選定した宿泊施設分布図及び関連情報

## 7) 写真データ

ハロン地域における観光資源、サイトの現地調査を通じて、数多くの観光資源、サイトの写真を撮ったことより、観光資源データベース開発では、それらのハロン地域の観光資源、サイトに関連する写真を収集、活用した。それらの写真データは登録番号、観光資源、サイトの名称ごとに分類し、写真データベースとして、観光資源データベースに含めた。ハロン市バイチャイ地区の宿泊施設、レストラン、土産物店などの観光施設の写真データは施設タイプ別に分類し、写真データベース及びArcGISのデータファイルとして、整理、保管した。

### 7) 観光資源データベースユーザーマニュアル

観光資源データベースユーザーマニュアルはWG-3メンバーとJICA専門家で作成した。マニュアルは観光資源データベースの一部であり、WG-3メンバーや文化・スポーツ・観光局の担当セクションのスタッフ等の利用者がデータベースのシステムの理解、運用、管理するための補足資料であり、またデータベースの運用、管理のトレーニングにも活用する。

## (8) 観光資源データベースのデータ、情報の改善、更新

### 1) 観光資源インベントリー

ハロン地域の観光資源インベントリーは全体地域と個別サイトの観光資源、サイトの2種類のフォームを、ワード形式で作成した。作成したインベントリーで追加データ、情報がある場合、WG-3メンバーあるいは担当者が適宜インベントリーのデータ、情報の更新を行う。インベントリーのデータ、情報の修正、更新を行った場合、情報・データの修正・更新記録

フォームに以下に示す事項を記録する必要がある。追加のインベントリー作成の場合でも、以下の事項を記録する。

- ・ 日付
- ・ 修正、更新作業担当者
- ・ 役職、担当部署名
- ・ 修正、更新の内容

インベントリーの修正、更新の頻度は最低6ヶ月に1回とする。

## 2) 観光資源データリスト

観光資源データリストはエクセル形式で作成。リスト内のデータの変更、更新が発生した場合、WG-3メンバーあるいは担当者が責任を持って行う。リスト内のデータ、情報の修正、更新を行った場合、修正、更新作業を行った担当者はインベントリーと同様に修正、更新作業の記録を行う。リストの修正、更新の頻度は最低6ヶ月に1回とする。

## 3) 観光資源の評価データ

観光資源の評価データはワード形式で作成。追加の観光資源インベントリーを作成した場合、WG-3メンバーあるいは担当者は観光資源の評価基準に従い、観光資源の評価を行い、評価結果をフォームに追記する。評価結果のデータ入力後、インベントリーと同様に担当者は必要な情報の記録を行う。評価データの更新頻度は追加的に観光資源の評価が生じた場合、適宜実施する。

## (9) 持続的な観光開発の阻害要因

抽出した阻害要因、問題点の分析結果の概要は様々なデータ、情報の分析、観光サイト、観光施設の現地調査、特性要因図（fishbone diagram: 魚の骨図表）を用いた阻害要因のワークショップの結果を踏まえ、ワーキンググループミーティングを通じて、WG3にメンバーと協議し、JICA専門家とローカル専門家が取りまとめを行い、表2-3-18に示す通りである。抽出されて阻害要因、問題点は4つの要因グループに分類された。

表 2-3-18 ハロン地域の持続的な観光開発の阻害要因の分析概要

Factor Group	Impacts
1. Tourist	<ul style="list-style-type: none"> <li>・ Increasing the number of visitors to QN and Halong: 6.5 million visitors to QN including over 2.3 million of international visitors (Ha Long received a total of 2.9 million visitors) in 2011<sup>1</sup>.</li> <li>・ The inappropriate activities and behavior of tourists: discharging waste, trampling, breaking, writing, and drawing on the stalactites and stalagmites in the cave or degradation of biodiversity of the area.</li> <li>・ Tourist discharges about 0.5 kg of waste and approximately 100 L of wastewater per trip<sup>2</sup>.</li> <li>・ Many tourist groups deliberately touch the stalactites and stalagmites to take souvenir photos.</li> <li>・ Carving one's name or writing and drawing on cliff.</li> <li>・ The stalactites and stalagmites are damaged by CO<sub>2</sub> emission from tourists density.</li> </ul>
2. Tourism Facilities and Business	<ul style="list-style-type: none"> <li>・ Bai Chay tourist boat station often receives about 500 boats<sup>3</sup> and use the wharf for landing, leaving, and anchoring. About 5000 tourists arrive per day.</li> <li>・ Food waste and domestic waste: to comply with the process of collection and classification on site, transported to inland and treated by the responsible units.</li> <li>・ Many boats do not have the equipment for collection and treatment of hazardous liquid waste. Wastewater containing oil is directly discharged into the bay.</li> <li>・ Operation of boats and vessels in Halong Bay stir sediments in the sea bottom making the sea water turbid and collides with marine species, particularly when anchoring on coral reefs, sea grass, etc.</li> <li>・ After each trip, about 50 kg to 100 kg of garbage and food wastes are disposed by boat each day.<sup>4</sup></li> <li>・ Oil scum spreads widely on the sea surface.</li> </ul>

<sup>1</sup> Tourism statistics, DCST

<sup>2</sup> Pilot Project for Eco-label for Tourist Boats in Halong Bay, ART Vietnam, 2011

<sup>3</sup> Pilot Project for Eco-label for Tourist Boats in Halong Bay, ART Vietnam, 2011

<sup>4</sup> ditto



Factor Group	Impacts
	<ul style="list-style-type: none"> <li>• A lot of solid wastes such as shell, crab shell, rotten fruits and vegetables, and even syringe are discarded disorderly along the sea coastline.</li> <li>• Discharging wastewater from restaurants into the bay is still not strictly controlled.</li> <li>• Untreated wastewater from hotels and guesthouses directly flow into the bay polluting sea water.</li> </ul>
3. Infrastructure System and Urban Development	<ul style="list-style-type: none"> <li>• Soil erosion along the coastal area due to land reclamation which makes the sea water turbid, sediments in channels, destructing the tidal flats, and mangrove ecosystems.</li> <li>• Mangrove area has lost nearly 2000 ha in the last 40 years.<sup>5</sup></li> <li>• During heavy rains, soil and rocks are washed down clogging drainage sewers, causing flood in the residential areas around Halong City.</li> <li>• Changing of land use increases the density of construction.</li> </ul>
4. Institutions and Environment outside the Tourism Sector	<ul style="list-style-type: none"> <li>• Piles (mountains) of waste rock of 200 m high, mining pits even about 100 m deep.</li> <li>• Mining solid waste and wastewater pollute the mining areas seriously.</li> <li>• Pollution in residential areas from odor, dust, and flooding near the south of Trang Bridge Coal Screening Plant; residential areas of Ha Tu, Ha Phong, Ha Khanh wards; residential areas near the Deo Sen and Ha Khau landfill sites.</li> <li>• Coal mining operations impact to air environment.</li> </ul>

出典：JET

### (10) 持続可能な観光開発の強み、潜在的要素

観光関連のレポート、計画、書類のレビュー、現地調査、観光セクターベースライン調査、観光船向けエコラベルのパイロットプロジェクトを通じて、持続可能な観光開発の強み、潜在的要素が抽出された。それらの強み、潜在的要素は多様で、地域のブランド化から、ベトナム北部観光地域の戦略的ポジション、特有の自然観光資源、観光インフラの改善、開発まで様々である。強み、抽出した強み、潜在的要素は以下に示す。

表 2-3-19 ハロン地域の持続的な観光開発の強み、潜在的要素

Advantages	<p><u>Strategic position</u></p> <ul style="list-style-type: none"> <li>• Halong City is the center of politics, economy, and culture of the Quang Ninh Province as well as a big hub of the northern key economic region with favorable natural conditions and social conditions.</li> <li>• The government has been giving special priority on state investments in building infrastructures and physical facilities which have contributed significantly to the economic growth of Halong City and Quang Ninh Province.</li> <li>• Connected road network from Hanoi and Mong Cai, border to China.</li> </ul> <p><u>Brand name and image</u></p> <ul style="list-style-type: none"> <li>• Officially recognized twice as a UNESCO World Natural Heritage Site (1994: landscape value and 2000: value of geology and geomorphology).</li> <li>• Recognized as one of the New Seven Wonders of Nature.</li> <li>• Halong Bay is promoted as a “must-see” tourism destination in the north of Vietnam for international tourist.</li> </ul>
Potentials	<p><u>Distinctive tourism resources and products</u></p> <ul style="list-style-type: none"> <li>• Ecotourism tours to mangrove forests, tropical rain forests on limestone mountains and caves (environmental education and conservation activities).</li> <li>• Visiting stilted and floating villages including home stay and experience the daily life of local villages.</li> <li>• Visiting coal mines to learn traditional mining technologies and history of mine industry.</li> <li>• Development of handicraft and souvenir (huge demands for domestic and foreign tourists).</li> <li>• Creation of diversified tour programs with the combination of existing natural and cultural tourism resources/sites within the Halong area including Van Don District (contributing in increasing the length of time and stay and reducing concentration of tourists in Halong Bay)</li> </ul> <p><u>Tourism facilities and infrastructures</u></p> <ul style="list-style-type: none"> <li>• Development of 4 or 5 star hotels and resorts for upscale markets in Bai Chay area in Halong Bay.</li> <li>• Development of aquarium in the coastal area of Halong Bay for tourism, conservation, and educational purposes.</li> <li>• Development and improvement tourism facilities and services including visitor center, information center, and public toilets in the Halong area.</li> <li>• Development of Roadside station at suitable location along National Road No. 18.</li> </ul>

出典：JET

<sup>5</sup> Baomoi.com (2011), <http://www.baomoi.com/Quang-Ninh-Han-che-san-doi-lap-bien-lay-dat/148/7265591.epi>

(11) ハロン地域の持続的な観光開発の戦略、施策の策定

- 1) 持続的な観光開発のビジョン、目標、戦略、施策の構造  
 ビジョン、目標、戦略、施策の概念的構造は図 2-3-27 に示す。



図 2-3-27 持続的な観光開発のビジョン、目標、戦略、施策の概念的構造

- 2) 戦略、施策の内容

ハロン地域の持続的な観光開発の戦略、施策の内容は以下に示す。

表 2-3-20 持続的な観光開発の戦略、施策の内容

Part	Contents
Main Report	1. Strategies and Measures 1.1 Vision 2.2 Goal 2.3 Strategies 2. Measures 2.1 Proposed approach and measures 2.2 Measures by strategies Contents of measure include the following items: (1) Name of measure (2) Project area/location (3) Purpose (4) Components of program (activities) (5) Necessary input (Experts, equipment, etc) (6) Beneficiary (7) Expected output (Achievement) (8) Expected implementing agency/organization (9) Expected coordination agency/organization (10) Implementation schedule (11) Estimated cost (12) Source of budget 3. Implementation Plan 3.1 Evaluation of proposed measures 3.2 Implementation process of proposed measure 3.3 Implementation schedule for the proposed measures
Appendices	Appendix 1: Background, methodology, and issues for formulation of strategies and measures for sustainable tourism development in the Halong area. Appendix 2: Implementation schedule for the proposed measures for sustainable tourism development in the Halong area. Appendix 3: Supplemental documents including location map of proposed measures.

出典：JET

- 3) ビジョン、目標

ビジョン

持続可能な観光地：

## ハロン地域の観光開発、環境保全との調和

## 目標

マストツーリズムから持続可能な観光への転換

## 4) 戦略

設定した目標を達成するために、ハロン地域の持続可能な観光開発のための以下の6つの戦略を設定した。施策の詳細は「持続可能な観光開発の戦略、施策のメインレポート」の1.3戦略に記載。

戦略 1: 持続可能な観光開発の管理能力の向上

戦略 2: エコツーリズムを支援するための法、組織制度のフレーム、政策の整備

戦略 3: 観光資源の保全

戦略 4: 持続的な観光商品の開発

戦略 5: 観光施設、ビジネスのサービス、質の向上

戦略 6: 持続可能な観光の広報・宣伝、振興

## 5) 提案アプローチ及び施策

各戦略を達成するために、WG3では以下のアプローチ、施策を提案した。提案した施策内容の詳細は「持続可能な観光開発の戦略、施策のメインレポート」の2.2戦略毎の施策に記載。

表 2-3-21 戦略毎の提案アプローチ、施策のリスト

Strategy	Approach	Measures
Strategy 1 Enhancement of Management Capacity for Sustainable Tourism Development	Approach 1-1 Development of tourism area management plan for the Halong area	Measure 1-1-1: Preparation of the zoning plan and management guideline for tourism development in Bai Chay and Hung Thang areas.
		Measure 1-1-2: Identification of solution for unfinished tourism development and pending tourism facilities, and preparation of effective approval and monitoring system of land leasing for tourism facilities and tourism development in Bai Chay and Tuan Chau.
		Measure 1-1-3: Preparation of tourism site management guideline for major islands in Halong Bay.
Strategy 2 Development of Legal and Institutional Framework, and Policy for Supporting Ecotourism	Approach 2-1 Institutional framework and policy for ecotourism development	Measure 2-1-1: Formulation of regulation on promotion of ecotourism in Quang Ninh.
		Measure 2-1-2: Formulation of policy, institutional framework, and incentives for promoting ecotourism activities.
Strategy 3 Protection of Tourism Resources	Approach 3-1: Optimum operation and management of tourist boats	Measure 3-1-1: Control of tourist boat access and boat stay areas in major islands at peak time.
	Approach 3-2 Strengthen environmental protection for people in floating villages and working in Halong Bay	Measure 3-2-1: Training on the use of wool knitted scourer, sorting wastes, and composting wastes for floating villages.
		Measure 3-2-2: Lecture on environmental protection and activities for people in floating villages and those who are working in Halong Bay.
		Measure 3-2-3: Monitoring of sea water quality by using Secchi disk.
	Measure 3-2-4: Support for the preservation of traditional culture of floating villages.	
Approach 3-3 Improvement of local wastewater treatment facilities with proper management	Measure 3-3-1: Upgrading operational capacity of local wastewater treatment facility and sewerage collection system.	
Approach 3-4 Strengthen inspection	Measure 3-4-1: Development of guideline for inspection and monitoring of tourism resources and pollution level at tourist sites, wharf and jetties, and	

Strategy	Approach	Measures
	and monitoring of pollution level at sea port and anchoring sites in Halong Bay	anchoring sites in Halong Bay. Measure 3-4-2: Training of inspection and monitoring activities based on guideline. Measure 3-4-3: Reporting monitoring and inspection data and information to relevant departments and boat companies.
Strategy 4 Development of Sustainable Tourism Products	Approach 4-1 Development of ecotourism program	Measure 4-1-1: Development of ecotour to Trang Luoi Liem, Hon Quyen Rong, and Ba Ham Lake.
		Measure 4-1-2: Development of community based ecotour in Cong Dam area, Cua Van, and Vong Vieng (floating villages).
		Measure 4-1-3: Development of community based ecotour at Yen Lap Lake and Loi Am Mountain area.
		Measure 4-1-4: Boat tour in mangrove area with mangrove planting in Quang Yen and Bai Chay Bay.
		Measure 4-1-5: Study tour for unique values of the Halong area (landscapes, geography, geomorphology, biodiversity, culture, and history).
		Measure 4-1-6: Development of nature and educational boat tour by tourist boat company.
	Approach 4-2 Creation of tour network	Measure 4-2-1: Development of tour programs combining existing and new tourism sites in the Halong area and its surrounding areas with public, private, and community participation.
	Approach 4-3 Establishment of nature and ecotourism narrator certification and training system	Measure 4-3-1: Training and issuance of certificates for Halong Ecotour narrators.
	Approach 4-4 Training on ecotourism program development and marketing for local tourism business	Measure 4-4-1: Preparation of standard guideline for development, operation, and marketing of ecotourism product for local tourism business.
		Measure 4-4-2: Seminar and workshop for development, operation, and marketing of ecotourism product for local tourism business.
Approach 4-5 Development of tourism products with utilizing local resources	Measure 4-5-1: Development of local tourism products with design and quality guideline.	
	Measure 4-5-2: Training program on design, development, and marketing for tourism products from utilizing available local resources.	
Strategy 5 Upgrading Service and Quality of Tourism Facilities and Business	Approach 5-1 Training on customer services and hospitality for tourism business	Measure 5-1-1: Training on improvement of customer services and hospitality for local tourism business.
	Approach 5-2 Introduction of eco-grading system for accommodation (Green Lotus)	Measure 5-2-1: Encouragement of accommodation facilities in the Halong area to apply the Green Lotus Eco-label.
	Approach 5-3 Development of eco-label "Blue Sail" for tourist boats in Halong Bay	Measure 5-3-1: Finalization of developing eco-label for tourist boats in Halong Bay.
		Measure 5-3-2: Recognition of "Blue Sail" tourist boats and propaganda on eco-label for tourist boats.
	Approach 5-4 Upgrading visitor facilities in Halong Bay and Bai Chay area	Measure 5-4-1: Development of tourist information counter and space for presenting Halong Bay, applying audiovisual system in tourist information center at Bai Chay Tourist Wharf.
		Measure 5-4-2: Installation of display featuring history, culture, and nature of Halong area at tourist information center in Bai Chay area.
		Measure 5-4-3: Development of roadside station in Bai Chay area.
		Measure 5-4-4: Improvement of display at small exhibit space for tourist in Vong Vieng floating village.
		Measure 5-4-5: Utilization and updating tourism database at tourism information center including training.
Measure 5-4-6: Improvement, maintenance, and management of toilet facilities for tourists at tourist sites and floating villages in Halong Bay and Bai Chay area.		
Strategy 6 Propaganda and Promotion of Sustainable Tourism	Approach 6-1 Development of brand name and image creation as a sustainable tourism destination of the Halong area (Halong Bay)	Measure 6-1-1: Development of brand name and slogan of the Halong area as a sustainable tourism destination.
		Measure 6-1-2: Propaganda on media, press conference for brand name, logo, and slogan of the Halong area as a sustainable tourism destination.
	Approach 6-2: Development of information and data of	Measure 6-2-1: Updating information and data on floating villages, other major tourist sites in Halong Bay on existing website of HBMD.

Strategy	Approach	Measures
	tourist information on websites for tourists and market needs	
	Approach 6-3 Promotion and marketing for the Halong area as sustainable tourism destination	Measure 6-3-1: Development of tourism information and promotion materials for tourists and tour companies. Measure 6-3-2: Promotion of the Halong area as sustainable tourism destination through mass media. Measure 6-3-3: Holding promotion seminars and events as sustainable tourism destination of the Halong area in Halong, Hanoi, Ho Chi Minh, and other areas.

出典：JET

## 6) 実施計画

戦略毎の提案施策は以下の評価指標、レーティングで評価を行った。

表 2-3-22 評価指標、レーティング、実施期間

Evaluation Criteria	<ul style="list-style-type: none"> <li>・ Emergency/needs</li> <li>・ Realization</li> <li>・ Sustainability</li> </ul>
Rating	A=High (3 points) B=Medium (2 points) C=Low (1 point)
Implementation Period	Short-term (2 years): 2013-2014 Mid-term (3 years): 2015-2017 Long-term (5 years): 2018-2022

出典：JET

個別施策の全体評価結果より、全体評価結果がA以上の施策を優先施策として選定した。全ての優先施策は設定した短期の実施期間での実施を予定。

表 2-3-23 選定した優先施策

Strategy	Measures	Rating
Strategy 1	Measure 1-1-1: Preparation of the zoning plan and management guideline for tourism development in Bai Chay and Hung Thang areas.	A-
	Measure 1-1-3: Preparation of tourism site management guideline for major islands in Halong Bay.	A
Strategy 2	Measure 2-1-1: Formulation of regulation on promotion of ecotourism in Quang Ninh.	A-
Strategy 3	Measure 3-2-2: Lecture on environmental protection and activities for floating villages.	A-
	Measure 3-2-4: Support for preservation of traditional culture of floating villages.	A-
	Measure 3-3-1: Upgrading operational capacity of local wastewater treatment facility and sewerage collection system.	A
	Measure 3-4-1: Development of guideline of inspection and monitoring of tourism resources and pollution level at tourist sites, wharf and jetties, and anchoring sites in Halong Bay.	A
Strategy 4	Measure 4-1-4: Boat tour in mangrove area with mangrove planting in Quang Yen and Bai Chay Bay.	A-
	Measure 4-3-1: Training and issuance of certificates for Halong Eco-tour narrators	A
	Measure 4-5-1: Development of local tourism products with design and quality guideline.	A-
Strategy 5	Measure 5-1-1: Training on improvement of customer services and hospitality for local tourism business.	A-
	Measure 5-3-1: Finalization of developing eco-label for tourist boats in Halong Bay.	A
	Measure 5-3-2: Recognition of "Blue Sail" tourist boats and propaganda on eco-label for tourist boats.	A-
	Measure 5-4-5: Utilization and updating tourism database at tourism information center including training.	A-
Strategy 6	Measure 6-1-1: Development of brand name and slogan of the Halong area as a sustainable tourism destination.	A-

注：Regarding Measure 3-2-2, in case relocation of floating houses is implemented according to the "Draft Plan on Relocation of Floating Houses in Halong Bay (Relocation Plan) (No. 2969/BCD)", this measure will be excluded from the measures under Strategy 3 as well as in the priority measures.

出典：JET

提案した施策の内容、実施スケジュールの詳細は「持続可能な観光開発の戦略、施策のメインレポート」の添付資料2に記載する。

## (6) 活動

成果4の活動は主にWG-3メンバーとのディスカッションミーティング、現地調査、再委託業務、研修プログラムを通じて実施された。

### 1) 観光サイトの現地調査

プロジェクト期間中、WG-3メンバー、ローカル専門家、JICA 専門家はハロン湾及び内陸地域を対象に自然、文化、歴史的観光資源、潜在的な観光資源、周辺環境の現地調査及び選定したハロン湾内漁村の住民への聞き取り調査を実施した。現地調査の結果及び現地調査で収集した情報は阻害要因、潜在的な観光開発の分析、観光資源インベントリーの作成に活用した。

表 2-3-24 観光サイトの現地調査

No.	Date	Places to Visit and Interview	Participants
1	16 November 2010	Vong Vieng (Interview) – Kayaking area near Vong Vieng – Vung Ha - Trang Luoi Liem – Hon Quyen Ron– Cua Van Floating Culture Center (Interview) – Ba Trai Dao Beach– Hang Me Cung – Sung Sot Cave (Surprising Cave, Interview)	5 members from WG-3, 2 participants from DCST, HBMD, and JET
	17 November 2010	Tien Cah Son Cave - Master Cave – Cap La Cave – Bo Hung Cave– Hon Soi Van– Tra Gio (Cave) - Cong Dam (Islands, Fishing village, Interview) Cave in Cong Dam – Mangrove planting area in Cong Dam	4 members from WG-3, 2 participants from DCST, HBMD, and JET
2	30 November 2010	Cai Bau pagoda (Van Don District) – Beach area along Bai Tu Long Bay – Van Don Economic Zone - Cua Ong temple (Cam Pha Town) – Yen Lap Lake (Dai Yen Commune, Halong City) – Loi Am pagoda – Local village near boat landing area in Yen Lap Lake	4 members from WG-3, local staff (JET), JET
3	20 September 2011	Thien Cung Cave, Dau Go Cave, Cho Da Island, Dinh Huong Island, Ba hang village, Trong Mai Island, Bai Chay Beach, Tuan Chau Beach, Soi Sim Island, Titop Island, Bo Nau Cave, Sung Sot Cave, Me Cung Cave	3 members from WG-3, local expert
		Trong Cave, Trinh Nu Cave, Cua Van Village, Tien Ong Cave, Ba Ham Lake, Cong Dam Village, Quyen Rong Island, Cong Dam Island, Vong Vieng Village	3 members from WG-3,

資料：JET

### 2) ワークショップ

WG-3 ではプロジェクト期間中、WG-3 の活動進捗の報告及び関連組織からの報告内容に対するコメント、意見を得るために2回のワークショップを開催した。

表 2-3-25 ワークショップの概要

Workshop	Date	Main Subject
1st Workshop	27 February 2012	Result of pilot project on the development of eco-label for tourist boats in Halong Bay
2nd Workshop	7 November 2012	Draft strategies and measures for sustainable tourism development in the Halong area

出典：JET

## (7) 再委託業務

プロジェクト期間中、WG-3、ローカル専門家及びJICA 専門家の監督により、成果4の活動として以下の再委託業務を計画、実施した。

- ・観光客質問票調査

## (8) 研修プログラム

プロジェクト期間中、JICA 専門家とローカル専門家により、WG-3 メンバーに対して、WG-3 の活動に関連する様々な研修プログラムをディスカッションミーティングの機会を通じて、実施し、主な研修プログラムの概要は表 2-3-26 に示す。

表 2-3-26 2012 年度の WG-3 の主な研修プログラム

Data	Contents of Training Program	Participants
17-30 June 2012	・ Ecotourism and environmental education in Japan	2 members
22 October 2012	・ Operation of tourism resource database (TRD)	4 members
3 December 2012	・ Operation of tourism resource database with understanding of the User's Manual for TRD	3 members
10 December 2012	・ Basic understanding of ArcGIS ・ Operation of tourism resource database developed ArcGIS with understanding of the User's Manual for TRD	5 members

出典：JET

## 2.3.5 成果-5 (WG-4)：環境教育及び広報活動

### (1) WG-4 の体制

WG-4 は DONRE (環境保護局)、DOET (教育訓練局)、YU (青年同盟)、WU (婦人会) が核となるメンバーである。DONRE は、計画と活動実施のリーダーであり、調整役である。WG-4 のメンバーは、HBMD 及びエコボートチーム、エコスターズクラブ (ESC) と名付けられたコラボレイター (ボランティアグループ) と緊密に取り組んだ。

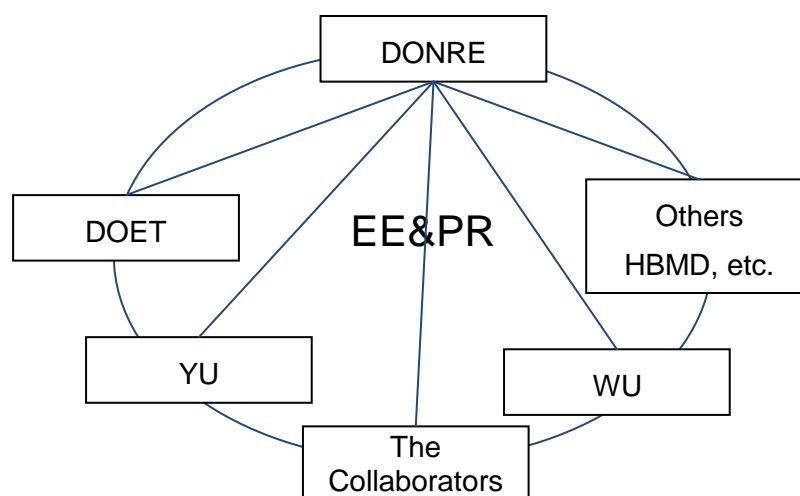


図 2-3-28 WG-4 の体制

### (2) WG 協議

WG-4 の計画と活動を実施するにあたって、2012 年度は以下の 3 回の WG 協議を行った。

表 2-3-27 WG-4 のディスカッション・ミーティングの結果 (2012年4月～2012年12月)

No. /Date	Theme	Major Comments and Proposals by WG-4 and JET	Actions of WG-4 and JET
14th Discussion Meeting of WG-4  (16 April 2012 at DONRE)	- To confirm the necessary activities and countermeasures to establish the Ha Long Environmental Education Association - To discuss the preparations for the Environmental Day in June, including environmental exhibition in cooperation of HBMD, Eco-fair 2012, etc. - To plan the tasks and assignments of each member from April to June	1) WG-4 agreed on the preparation for the documents to be submitted to the concern bodies. 2) WG-4 agreed to implement various activities regarding the environmental day. 3) WG-4 agreed on the task assignments.	1) WG-4 will compose a proposal letter and charter of association, with reference to the existing samples such as VACNE. 2) WG-4 will arrange a program by volunteers for the environmental day. 3) WG-4 will prepare their own plan following the given tasks.
15th Discussion Meeting of WG-4  (19 July 2012 at DONRE)	- To report on the training program in Japan - To report on the progress of the establishment of Ha Long Environmental Education Association and discuss the next step - To plan the tasks and assignments of each member for Eco-fair 2012	1) WG-4 agreed on the next steps to the establishment of Halong Environmental Education Association. 2) WG-4 agreed on the tasks and assignments for the Eco-fair 2012 and 2nd Eco-Network Meeting held on 1 December 2012 and 30 November 2012, respectively.	1) WG-4 will organize the Mobilization Board to do the subsequent steps to the establishment of the association with recognition from DONRE. 2) WG-4 will hold a launching ceremony of the association in the Eco-fair 2012.
16th Discussion Meeting of WG-4  (31 August 2012 at DONRE)	- To discuss the detailed contents and preparation on the Eco-fair 2012	1) WG-4 agreed on making the detailed plan on the Eco-fair 2012 and the date of the event, which is 1 December 2012. 2) WG-4 agreed on the proposal to insert the Eco-song in a KARAOKE system.	1) WU will be the main organizer in coordination with other members of WG-4. 2) WG-4 will make the detailed plan and budgetary plan of Eco-fair 2012. 3) The master plan of the eco-fair and the proposal on the eco-song will be submitted to PMB on the next regular meeting in order to get approval from CEM through PMB.

出典：JET

### (3) ボランティア活動の開発

WG-4 のメンバーは、環境教育・広報の実施にマンパワーを確保し、市民のアイデアを取り入れるため、活動の初期の段階で、ボランティア活動の開発に取り組んだ。プロジェクトでは、クアンニン省の学生を中心とするメンバーで構成される、エコスターズ・クラブ (ECO-Stars Club) と名付けられたボランティアグループが立ち上げられた。2012年12現在、ボランティアクラブのメンバーの数は、30人以上である。

ボランティア (コラボレイター) 組織の開発にあたっては、計9回のミーティングと6回のトレーニングが行われた。トレーニングには、モバイル環境教育における MC (司会) のスキルの向上を目的としたトレーニングが含まれる。特に、MC のトレーニングは、その活動経験から、婦人会や青年同盟のメンバーによって行われた。ミーティングとトレーニングの概要を表 2-3-28 に示す。

表 2-3-28 コラボレイターのミーティングとトレーニングの概要

Meeting/Training	Date	Place	Contents
Training of MC Skill on Environmental Topic (at the 12th Mobile-EE)	8 April 2012	Tourist boat of Halong Bien Ngoc	Training of MC (Lecturers are members of Provincial Youth Union.)
Training of MC skill for 14th Mobile-EE	25 July 2012	Meeting room of Provincial Women's Union	Training of MC (Lecturers are members of the Provincial Woman's Union.)

出典：JET



コラボレーターとの環境教育・広報活動の実施にあたって、合計 12 回の準備会議を開催した。特に、モバイル環境教育とコラボレーターによる清掃活動の実施にあたって、準備会議が開催された。その準備会議の概要を表 2-3-29 に示す。

表 2-3-29 準備会議の概要

Meeting	Date	Place	Contents
10th Meeting	5 April 2012	Meeting room of the Provincial Youth Union	Preparations for the 12th Mobile-EE on a tourist boat
11th Meeting	27 April 2012	Medical college	Preparations for cleaning up of Halong Carnival
12th Meeting	25 July 2012	Meeting room of the Provincial Women's Union	Preparations for Mobile-EE at Bai Chay 2 Primary and Junior High School for Study Tour of JICA Mission

出典：JET

ハロンカーニバルにおける清掃活動は、コラボレーター（エコスターズ・クラブ）の協力を得て行われた。その活動の概要を表 2-3-30 に示す。

表 2-3-30 コラボレーターによる清掃活動の概要

	Date	Place	Program
Cleanup activity at Bai Chay Beach	28 April 2012	Bai Chay Beach	Cleanup at Bai Chay and picking up of waste by Eco-stars Club

出典：JET

#### (4) セッキ板ムーブメントの推進

セッキ板ムーブメントは、観光船におけるセッキ板の使用を広めるために実施されてきた。セッキ板は、水の透明を簡易に把握するための道具である。この道具は、既に、ハロン湾の観光船の船長や船員に紹介されている。

セッキ板を推進することの目的は、セッキ板の使用やセッキ板により把握されたデータのフィードバックを通じて、観光船の船長や船員の環境への意識を向上させることにある。また、観光船のツアー中に、船長や船員がセッキ板の使用を実施することで、観光客のハロン湾の環境への意識を向上させることも期待される。さらに、観光船のスタッフにより、正しくセッキ板のデータが計測されるようになれば、ハロン湾の水の濁り度合についてのデータが、広範囲及び長期において蓄積することが可能となる。

WG-4 のメンバーは、セッキ板ムーブメントの開始にあたり、観光船のオーナーを巻き込むことから開始した。観光船のスタッフへのトレーニングは、ボランティアによって行われた。合計 26 隻を対象にトレーニングが行われ、セッキ板の使用方法について理解された。しかしながら、セッキ板の定期的な使用について、課題が残された。WG-4 は、今後、セッキ板の普及を継続することを決定したが、観光船スタッフによるセッキ板データの記録と、そのデータの回収についてのモデルを確立することに集中することとした。そのモデルを確立するには、DOT（運輸局）の管理下にある港管理者の協力が鍵となる。

観光船オーナー会議及び観光船スタッフを対象とするトレーニングの概要は、表 2-3-31 に示す。

表 2-3-31 観光船オーナー会議及び観光船スタッフを対象とするトレーニングの概要

Item	Date	Place	Contents
Training of staffs of tourist boats	15 July 2012	Meeting room of Indochina Junk Company	Providing feedback data of the Secchi disk based on data recorded by staff of tourist boats, including Indochina Junk company
Training of staffs of tourist boats	27 August 2012	Meeting room of Indochina Junk Company	Training of staffs of tourist boats, including new and existing participants, on how to use the Secchi disk and record the data

出典：JET

**(5) モバイル環境教育の実施**

モバイル環境教育は、2011年3月以来、市民の環境意識及び関連知識の向上を目的に実施されてきた。合計15回のモバイル環境教育が、主としてモデル地域である Hung Thang 地区及び、 Bai Chay 地区、 Hong Hai 地区において行われてきた。主な対象は、住民や生徒である。モバイル環境教育の概要は、表 2-3-32 に示す。

**表 2-3-32 モバイル環境教育の概要**

Mobile-EE	Date	Place	Program
12 <sup>th</sup> Mobile-EE on a tourist boat of Halong Bien Ngoc	8 April 2012	Tourist boat of Halong Bien Ngoc	1. Introduction of WG-4's activities and purpose, target of Mobile EE on a boat. 2. Training on MC skill on environmental topic to volunteers 3. Demonstration on the use of the Secchi disk. *Number of participants: 28 persons
13 <sup>th</sup> Mobile-EE in Hong Hai ward	14 June 2012	School in Hong Hai Ward	1. Introduction of the Project and purposes of Mobile EE 2. What is Eco? What are the eco-activities in saving electricity? 3. Eco-quiz: Yes-No question, optional questions 4. Playing Eco-games *The Mobile-EE was held as Japanese TV program, "Chikyu VOCE". ** Number of participants: around 60 persons
14 <sup>th</sup> Mobile-EE at Bai Chay 2nd primary and junior high school	27 July 2012	School in Bai Chay Ward	same as the above program *The Mobile-EE was held with Japanese junior high school students from the Study Tour of the Essay Contest Mission of JICA. **Number of participants: around 100 persons
15 <sup>th</sup> Mobile-EE in Bai Chay ward	28 August 2012	Yard of Cultural House of Bai Chay Ward	1. Introduction of the Project and purposes of Mobile EE 2. What is Eco? What are the eco-activities in saving electricity? 3. Eco-quiz: Yes-No question, optional questions 4. Playing Eco-games (Eco-logo puzzle and garbage classification game) 5. Singing Eco-song *The Mobile-EE was held in the press tour. **Number of participants: around 100 persons

出典：JET

**(6) エコネットワークミーティングの開催**

学識経験者やマスメディアを含む関係者が、環境教育協会の設立やクアンニン省の環境教育・広報の戦略と行動といった重要事項を検討する場として、エコネットワークミーティングを2回開催した。エコネットワークミーティングの概要は、表 2-3-33 に示す。

**表 2-3-33 エコネットワークミーティングの概要**

Item	Date	Place	Contents
2nd Eco-Network Meeting	30 November 2012	Meeting room of DONRE	- Introduction of the association (HLEEA: Ha Long Environmental Education Association) - Strategies of Environmental Education and PR in Quang Ninh - Operations guide of HLEEA

出典：JET

**(7) エコ・フェアーの開催**

エコの精神と関係団体によって実施された環境保護もしくは環境教育の結果を一般市民と共有するために、エコ・フェアー2011とエコ・フェアー2012を、それぞれ400人の来訪者と30人のボランティア、及び1,000～1,500人の来訪者と33人のボランティアを得て開催した。エコ・フェアーの概要を表 2-3-34 に示す。

**表 2-3-34 2012年度のエコ・フェアーの概要**

Item	Date	Place	Contents
Eco-fair 2012	1 December 2012	Bai Chay tourist area (Canh Buom (Sail) Stage)	-Speech on HLEEA's establishment - Music and talk show with a famous singer - VIP's visit to booths - Contest for Eco-crews (including performances)

出典：JET

(8) 広報活動の開発

広報活動について、プロモーショングッズ(帽子やTシャツなど)や環境教育教材(エコクイズなど)が開発された。各グッズや教材は、モバイル環境教育やセッキー板ムーブメント、エコ・フェアなどのイベントで活用された。イベントの開催にあたり、その関連情報は、テレビやウェブサイト、新聞といったマスメディアを通じて一般に伝えられた。また、プロジェクトにおけるワーキンググループの活動について、5回のインフォメーションレターが発行され、関係機関に配付された。さらに広報用ウェブサイト(<http://ecoquangninh.blogspot.com/>)が開発された。

また、プロモーション活動の一環として、エコソング(タイトル:歌って踊ろうエコ)が作曲され、プロの有名歌手である Van Mai Huong によって、エコ・フェア2012において歌われた。この歌は、プロジェクト終了後も、環境教育・広報活動において使用される。



Nhảy hát cùng ECO

Lyric: ECOMI Music: Nguyễn Mai Kiên

Allegro ♩=120

Từ buổi sớm, khi chỉ gà trống riu riu gây vang trên đường. E-CO Ngọt ngào  
 Rồi trưa đêm, khi chỉ mèo con đang vui lại trong nắng vàng. E-CO Ngọt ngào  
 Và buổi tối, nay cứ nhảy múa khi bóng tối đang xuống dần. E-CO Ngọt ngào

5 Sau bữa sáng, Mẹ rửa bát sáng bóng bằng chút nước rửa bát. E-CO Ngọt ngào  
 Trên con phố, Bà nhặt rác cho vào thùng rác rất sạch sẽ. E-CO Ngọt ngào  
 Trên căn gác, Em tắt hết các ngọn đèn khi không cần thắp. E-CO Ngọt ngào

9 Tôi đi bơi, tung tăng với bạn bè giữa Vịnh Hạ Long xanh tươi. E-CO Ngọt ngào  
 Tôi đi chơi, tung tăng với bạn bè giữa Vịnh Hạ Long xanh tươi. E-CO Ngọt ngào  
 Trong đêm khuya, lung linh ánh sao trời giữa Vịnh Hạ Long mờ mờ. E-CO Ngọt ngào

13 Tôi đi chơi, riu riu với bạn bè trên đường Quảng Ninh thành thàng. E-CO Ngọt ngào  
 Tôi đi chơi, riu riu với bạn bè trên đường Quảng Ninh thành thàng. E-CO Ngọt ngào  
 Trong cơn mưa, cơn bay giữa bầu trời mơ về Quảng Ninh biển yêu. E-CO Ngọt ngào

18 Mơ...mơ giấc mơ, một giấc mơ về ngày mai. Lá lá lá lá lá lá lá lá lá lá Mơ...cuộc sống chung

23 ... vì sức xanh toàn đất nước... E-CO E-CO E-CO Chung tay... vì E-CO.

30 E-CO E-CO E-CO. E-CO E-CO E-CO. E-CO E-CO E-CO.

33 E-CO E-CO. Hãy cùng nhau ca hát về E-CO.

出典 : JET

図 2-3-29 プロの歌手によって歌われたエコソング

(9) ベースライン調査の実施

環境教育・広報活動の実施前後にける住民のハロン湾の環境保護の意識や行動の変化を把握するため、モデル地域である Bai Chay 地区及び、Hong Hai 地区 Hung Thang 地区を対象にベースライン調査を実施した。ベースライン調査の概要は、表 2-3-35 に示す。

表 2-3-35 ベースライン調査の概要

	Before Implementation of EE and PR	After Implementation of EE and PR
Period of Data Sampling	December 2010 to January 2011	August 2012 to October 2012
Number of Samples	Primary school students: 50 Junior high school: 67 High school students 51 College students: 86 Residents (Community): 99	Primary school students: 52 Junior high school: 50 High school students 50 College students: 86 Residents (Community): 126

出典：JET

**(10) その他の活動**

2012年に、国際環境デーに、ハロンにおいて国の行事が開催された。WG-4もハロン湾管理局(HBMD)や天然資源環境局(DONRE)、天然資源環境省(MONRE)と共に、当行事に参加した。当行事の一環として、マングローブの植林が、コラボレイター（エコスターズ・クラブ）の協力を得て行われた。その活動の概要を表 2-3-36 に示す。

表 2-3-36 国際環境デーについての活動の概要

Activity	Date	Place	Program
Environmental Education Exhibition (Organizer: HBMD)	2 June 2012	Titop Island, Halong Bay	Displaying promotion goods and materials in front of the entrance of the tourism site
Workshop on Green Economy Forum (Organizer: MONRE and QN DONRE)	4 June 2012	Grand Hotel	Displaying promotion goods and materials in front of the entrance of the building
Mangroves Planting (Organizer: MONRE and QN DONRE)	6 June 2012	Ha Phong ward, Halong City	Mangrove planting in an area of Ha Phong ward, Halong City

出典：JET

**(11) 環境教育の協会の設立**

活動の計画と実施を通じて、WG-4のメンバーは、プロジェクトにおいて開発、実施されたモバイル環境教育やセッキー板ムーブメント（セッキー板普及活動）のような前述の活動を、プロジェクト終了後においても継続するという考えに至った。そこで、それらの活動を継続する環境教育・広報の協会を設立するという提案が、2012年3月6日に開催された第5回CEMに提出され、了承された。WG-4のメンバーは、Degree 45/2010/ND-CPに基づき、ハロン湾環境教育協会(HLEEA: Ha Long Environmental Education Association)の設立手続きを進めている。

### 第3章 キャパシティ・ディベロップメント支援実施方法及び達成状況

#### 3.1 成果-1

##### 3.1.1 キャパシティ・ディベロップメント計画

キャパシティ・ディベロップメント (CD) の成果を得るために、CD の活動及び結果を監視する必要がある。このため、成果-1 に関する CD 計画は表 3-1-1 に示すとおり、「ベ」国側 C/P 及び JET での協議により作成・共有された。

表 3-1-1 成果-1 における段階的な CD 計画

Output Item	CD Phase			
	I	II	III	IV
Objective of CD	-Clarification and sharing goal and objective -Leadership training to crossing organization	-Strengthening of operation and leadership of cross-organizations	-Support for self-reliance operation of the CEM	-Reorganization of CEM and support for its self-reliance operation
Work content	-Call for relevant organizations written in R/D -Discussion on draft Inception Report (Ic/R) and agreement of the contents	-Approval of AOP for each WG activity plan, monitoring and evaluation of the progress -Sharing information and meeting on the other donors' activities	-Progress management and evaluation of each WG's activity -Sharing information and meeting on the other donors' activities	-Review of operation of the CEM and reorganization -Evaluation of outputs and proposal of activities in next period
Expected output	-Ownership and commitment are fostered based on declaration of establishment of the CEM	-Operation and leadership of the Project and WGs are strengthened.	-AOP is able to be prepared and explained. -Comment and instruction are able to be made to other donors.	-Operation and implementation of measures by Halong Bay Area Environmental Management Committee (tentative name) are sustained. -Explanations on outputs are able to make to QNPPC and MONRE.
Sender	-JICA Expert Team (JET) -Vice Chairman of QNPPC	-JET -Vice Chairman of QNPPC	-JET -Vice Chairman of QNPPC -CEM	-JET -Vice Chairman of QNPPC -CEM
Recipient	-Staff of member organizations of the CEM -Staff of member organizations of each Working Group (WG)	-Staff of member organizations of the CEM -Staff of member organizations of each WG	-Staff of member organizations of each WG	-Staff of member organizations of each WG and staff of relevant organizations in QNPPC
CD activity	-Implementation of Regular meeting of the CEM -Instruction of preparation and discussion of annual plan of operation (AOP)	-Implementation of Regular meeting of the CEM -Instruction of preparation and discussion of annual plan of operation (AOP)	-Implementation of Regular meeting of the CEM -Instruction of preparation and discussion of annual plan of operation (AOP)	-Preparation of environmental conservation strategy utilizing the Output-2 to Output-5, and its explanation and proposal to QNPPC -Explain of outputs to MONRE
Period	May 2010 - Aug. 2010	Sept. 2010 - March. 2012	May 2012 - Aug. 2012	Sept. 2012 - Feb.2013

出典：JET

CEM の達成評価を行うための指標及び目標レベルは、本 CD 計画に基づき、実際のプロジェクト活動の中で PMB と C/P によって協議された。最終的な目標とプロジェクトの目的を含んだ CEM へ提案された指標及び目標レベルを表 3-1-2 に示す。CEM は社会・制度への主なツールとして設定される。

表 3-1-2 成果-1(CEM)に係る達成状況の指標と目標値

Overall Goal/Project Purpose/Outputs	Objectively Verifiable Indicators	Verification Method	CD Plan (period)	Remarks
<Overall Goal> Pollution and destruction to natural resources and the environment is prevented in the Halong Bay (World Heritage) and its vicinity: Halong City, Cam Pha Town and Hoanh Bo District, Yen Hung District, and Van Don District of Quang Ninh Province.	(1)The figures on environmental data in the Halong Bay and its vicinity (Water environment, Bio-diversity, and Satisfaction level of tourists) are improved by 2015 compared with those in the level of 2010. (2)The practice in Halong area is recognized to be effective in national level by 2015. (3)CEM functions continuously after the Project as an authorized/ official organizations for integrated environmental protection of the Halong Bay and its vicinity.	a)Provincial State of Environment (2010), QN PPC b)Environmental Protection Plan to 2010 and Orientation to 2020, QN Province (2010) c)Land Use Plan to 2015, QN PPC d)Plan on Tourism Development of QN Province to 2015 and vision to 2030, QN PPC	Phase- IV and over (Feb 2013 - Dec 2015)	-Post evaluation be conducted by QN PPC and JICA jointly.
<Project Purpose> Implementation capacity for natural resources and environmental management for sustainable tourism in Halong area is strengthened.	(1)Number of measures implemented is increased until 2013. (2)More than 40 suggestions, recommendations, and solutions are proposed by WGs to CEM until 2013. (3)More than 20% staff in related organizations evaluated their capacity on sustainable tourism and environmental management to be improved by 2013 compared with the level of 2010 when the Project started.	a)Progress report of the Project b)CA results c)Results of terminal evaluation	Phase- IV (Sept 2012 - Feb 2013)	-JICA terminal evaluation be conducted.
<Outputs> 1)Roles of related organizations and institutional coordination for natural resources and environment management in Quang Ninh Province are improved.	(1)More than 40 constructive comments, suggestions, and instructions to the Integrated Environmental Monitoring Plan (IEMP) of WG-1, the Coastal Environment Protection Corridor Plan (CEPC) of WG-2, the Sustainable Tourism Development Strategy (STDS) of WG-3, and the environment conservation strategy prepared by WGs are given by CEM. (2)The Environmental Protection for Sustainable Tourism Strategy prepared by WGs is proposed and shared to the concerned organizations in QN PPC. (3)The strategy is disseminated by CEM through a seminar to concerned stakeholders.	a)Activity monitoring record of CEM meeting b)Activity monitoring result c)Strategy report and document prepared and submitted	Phase- II to IV (Sept 2010 - Feb 2013)	-Project Management Board be included.  -Objectives, targets, and messages be clarified.

注： prepared based on the modified PDM (Ver. 3)

### 3.1.2 現在の達成状況

#### (1) 活動のモニタリング結果

成果-1 の実際の活動は、Ic/R に基づいて計画及び実施された。成果-1 の主な活動は下記の通りである。

- 1) 環境管理合同調整委員会(CEM)の立ち上げと CEM 会議の実施
- 2) ワーキンググループの形成とプロジェクト管理委員会 (PMB) によるワーキンググループ活動のモニタリング
- 3) 効果的な援助のためのハロン湾地域のドナーとの情報共有
- 4) 「環境保全のための適切な観光戦略」の作成とクアンニン省人民委員会の認証
- 5) 本邦研修の実施

現在における成果-1 の活動状況を表 3-1-3 に示す。現在までに特に大きな問題は発生していない。

## (2) 現在の達成状況

成果-1における現在のCDの達成レベルを、変更PDM(Ver.3)の客観的に検証可能な指標をベースとして表3-1-3に示す。

表3-1-3 現時点における成果-1のCD達成状況

Overall Goal/ Project Purpose/ Outputs	Objectively Verifiable Indicators	Verification Method	Status by the End of the Project
<Overall Goal> Pollution and destruction to natural resources and the environment are prevented in the Halong Bay (World Heritage) and its vicinities, i.e., Halong City, Cam Pha Town and Hoanh Bo District, Yen Hung District, and Van Don District of Quang Ninh Province.	(1)The figures on environmental data in the Halong Bay and its vicinities (water environment, bio-diversity, and satisfaction level of tourists) are to be improved by 2015 when compared with the conditions in 2010. (2)The practice in the Halong area is recognized to be effective in the national level by 2015. (3)CEM functions continuously after the completion of the Project, as an authorized/ official organization for integrated environmental protection of the Halong Bay and its vicinity.	a)Provincial State of Environment (2010), QN PPC b)Environmental Protection Plan for 2010 and Orientation for 2020, QN Province (2010) c)Land Use Plan for 2015, QN PPC d)Plan on Tourism Development of QN Province for 2015 and vision in 2030, QN PPC	Indicators for items (1) to (3) should be verified after 2015.
<Project Purpose> Implementation capacity for natural resources and environmental management for sustainable tourism in the Halong area is strengthened.	(1) Number of measures implemented is increased until 2013. (2) More than 40 suggestions, recommendations, and solutions are proposed by WGs to CEM until 2013. (3) More than 20% of the staff in related organizations evaluated their capacity on sustainable tourism. Environmental management is expected to be have improved by 2013 as compared with its level in 2010 when the Project started.	a)Progress report of the Project b)CA results c)Results of terminal evaluation	(1) Measures to be implemented were proposed as the outcome of the Project. (2) More than 40 suggestions, recommendations, and solutions are proposed by WGs to CEM in the 7th CEM meeting on 13 Dec. 2012. (3) More than 20% of the staff in related organizations evaluated their capacity on sustainable tourism, and environmental management to have improved as a result of the capacity assessment conducted in November 2012 as compared to the previous result in July 2011.
<Outputs> 1)Roles of related organizations and institutional coordination for natural resources and environment management in Quang Ninh Province are improved.	(1)More than 40 constructive comments, suggestions, and instructions to the Integrated Environmental Monitoring Plan (IEMP) of WG-1, the Coastal Environment Protection Corridor Plan (CEPC) of WG-2, the Sustainable Tourism Development Strategy (STDS) of WG-3, and the environment conservation strategy prepared by WGs are given by CEM. (2)The EPSTS prepared by WGs is proposed and shared to the concerned organizations in QN PPC. (3)The strategy is disseminated by CEM through a seminar to the concerned stakeholders.	a)Activity monitoring record of the CEM meeting b)Activity monitoring result c)Strategy report, and document prepared and submitted	(1) More than 40 constructive comments, suggestions, and instructions were given by CEM. (2) and (3) The Environmental Protection for Sustainable Tourism Strategy prepared by WGs was proposed and shared to the concerned organizations in QN PPC through CEM, WGs, workshops, and final seminar.

注：Verifiable Indicators are quoted from the modified PDM (Ver. 3)

出典：JET

表 3-1-4 成果-1 (CEM) の活動モニタリング結果

Tasks	Input	Key items for checking process	Output	Period																			
				2010						2011													
				4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3								
2-1-1 Grasping pollution characteristics by existing information	(1) WG-1 (2) JET (3) Sub-contract work	(1) Monitoring data by DONRE (2) TOR of sub-contract work	(1) Water pollution characteristics report			■																	
2-2-1 Grasping current status of env. Monitoring	(1) WG-1 (2) JET	(1) Record of discussions	(1) Documents describing current status of env. monitoring			■																	
2-2-2 Development of Integrated Env. Monitoring Implementation Plan (IEMIP) for Quang Ninh Province	(1) WG-1 (2) JET (3) Local experts	(1) Record of discussions (2) Analytical data obtained through IEMIP	(1) Framework of IEMIP (2) IEMIP (2011) (3) IEMIP (2012)																				
2-4-1a Lecture on environmental monitoring.	(1) JET (2) Local experts (3) Sub-contract work	(1) List of attendants on lectures	(1) CA sheets																				
2-5-1a Implementation and support of OJT for environmental Monitoring	(1) JET (2) Local experts (3) Sub-contract work	(1) List of attendants on OJT (2) TOR of sub-contract work	(1) CA sheets																				

Note: ■ planned ■ implemented



## 3.2 成果-2

### 3.2.1 キャパシティ・ディベロップメント計画

CD 計画は、ベトナム側カウンターパート(C/P)と JICA 専門家チームの議論を通して作成・共有された。成果-2 の CD 計画を表 3-2-1 に示す。

表 3-2-1 成果-2 における段階的な CD 計画

Output	CD Phase	I	II	III	IV
	Item				
Output-2	Objective of CD	-Clarification and sharing goal and objective	-Strengthening of planning and executive capability	-Improvement of administrative executive capability	-Demonstration of administrative executive capability in cooperation with relevant organizations
	Work content	-Establishment of Working Group 1 (WG-1) and preparation of the APO	- Development of an Integrated Environmental Monitoring Implementation Plan (IEMIP) for Quang Ninh Province. - Development of a draft Implementation Plan for Inspection and Administrative Guidance (IPIAG) for pollution sources in Halong area. - Development of main pollution source inventory (1st step).	- Trial implementation and review of the IEMIP. - Trial implementation and review of the draft IPIAG. - Updating the main pollution source inventory (2nd step). - Development of pollution source map. - Collecting information on typical environmental incidents in Halong area. - Examination of measures to address environmental incidents.	- Proposal for sustainable implementation of the IEMIP and the IPIAG such as budget allocation and capacity development plan. - Proposal for continuous updating of the main pollution source inventory and the pollution source map. - Recommendation on legislative and institutional system for environment management in Halong area.
	Expected output	-Sharing activities and commitment are fostered based on declaration of the WG-1	- Shared information on status of main pollution sources among the concerned administrative bodies. - Knowledge and experiences on planning processes and experience monitoring, inspection, and administrative guidance plan. - Knowledge on Japanese and other advanced experiences and systems for environmental monitoring, inspection and administrative guidance.	- Knowledge and experiences on operating and updating of required environmental monitoring, inspection and administrative guidance system. - Capacities to involve external stakeholders for pollution control in Halong area.	- Capacities to propose ideas for sustainable implementation of environment management
	Sender	-JET -Vice Chairman of QNPPC	-JET -CEM	-JET -CEM	-CEM -WG-1
	Recipient	-WG-1	-WG-1	-WG-1 -Staff of relevant organizations of QN PPC	-Staff of QN DONRE -Staff of relevant organizations of QN PPC
	CD activity	-Training of preparation of the APO	-Lectures on environmental monitoring, inspection, and administrative guidance. - OJT on environmental monitoring, inspection, and administrative guidance.	- OJT through trial implementation of the IEMIP. - OJT through trial implementation of the draft IPIAG.	- OJT to prepare proposals on the IEMIP and the IPIAG. - OJT to propose legislative and institutional system for environment management
	Period	May 2010 - Aug. 2010	Sept. 2010 - March. 2012	May 2012 - Aug. 2012	Sept. 2012 - Feb.2013

出典：JET

活動計画を踏まえ、成果-2 の達成度評価に係る指標及び目標について、プロジェクトの実際の活動を踏まえカウンターパートと協議した。成果-2 に係り、第 4 回 CEM 会議にて提案された指標を表 3-2-2 に示す。

表 3-2-2 WG-1 のキャパシティ・ディベロップメントの達成評価の指標および目標

Output	Objectively Verifiable Indicators	Verification Method	CD Plan (period)	Remarks
Environmental monitoring, inspection, administrative guidance in Halong area are enhanced by DONRE and related organizations.	(1) Environmental Monitoring Plan in 2012 is formulated based on QN Inventory and relevant information from other WGs.	1) Environmental monitoring plan in 2012	Phase II to III (July 2011 to August 2012)	Main actors are Quang Ninh DONRE and HBMD.
	(2) Number of environmental monitoring are achieved more than 80% of the number indicated in the Environmental Monitoring Plan in 2012.	1) Quarterly monitoring reports prepared by DONRE, HBMD and JET 2) Water quality monitoring data	Phase II to IV – (January 2012 to December 2012)	-
	(3) At least 2 recommendations on pollution control are submitted to CEM based on obtained monitoring data.	1) Results of terminal evaluation 2) Documents on recommendations for pollution control 2) Discussion records of WG-1 discussion meeting	Phase IV (Sept. 2012 - Feb.2013)	When recommendations are prepared, WG-1 will cooperate with other WGs.
	(4) Number of environmental check conducted is achieved 68 (80%) among 84 targets in 2011, and the numbers equivalent to 80% among targets to be set in 2012.	1) Environmental check reports (issued by Sub-Dept. of EP)	Phase II to IV (January 2012 to January 2013)	Planned number of environment check will be set at the end of 2011.
	(5) More than 80% of pollution sources found serious infringement cases are inspected with giving administrative guidance based on the check.	1) Inspection reports (issued by Inspection Division)	Phase IV (2013 January)	-

注：prepared based on the modified PDM (Ver. 3)

### 3.2.2 現在の達成状況

#### (1) 活動モニタリング結果

成果-2 の実際の活動は、Ic/R に基づいて計画及び実施された。成果-2 の主な活動は下記の通りである。

- 1) ハロン湾における汚染と水環境の特徴を把握する
- 2) 環境モニタリング活動の現状を把握する
- 3) 統合環境モニタリング計画 (IEMIP) の作成及び実施
- 4) ハロン地域における汚染源インベントリの作成及び改善
- 5) ハロン地域におけるインスペクションと行政指導の実施計画の作成と運用
- 6) .ハロン地域における典型的な環境汚染事故と環境汚染事故を防止する措置に関する情報収集

成果-2 の活動の現在の状況を表 3-2-3 に示す。現在のところ、活動計画は予定通り実施されている。

表 3-2-3 (1) WG-1 におけるモニタリング活動結果

Tasks	Input	Key items for checking process	Output	Period																		
				2010						2011						2012						
				4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3							
2-1-1 Grasping pollution characteristics by existing information	(1) WG-1 (2) JET (3) Sub-contract work	(1) Monitoring data by DONRE (2) TOR of sub-contract work	(1) Water pollution characteristic report			■																
2-2-1 Grasping current status of env. Monitoring	(1) WG-1 (2) JET	(1) Record of discussions	(1) Documents describing current status of env. monitoring		■																	
2-2-2 Development of Integrated Env. Monitoring Implementation Plan (IEMIP) for Quang Ninh Province	(1) WG-1 (2) JET (3) Local experts	(1) Record of discussions (2) Analytical data obtained through IEMIP	(1) Framework of IEMIP (2) IEMIP (2011) (3) IEMIP (2012)			■				■												
2-4-1a Lecture on environmental monitoring,	(1) JET (2) Local experts (3) Sub-contract work	(1) List of attendants on lectures	(1) CA sheets			■																
2-5-1a Implementation and support of OJT for environmental Monitoring	(1) JET (2) Local experts (3) Sub-contract work	(1) List of attendants on OJT (2) TOR of sub-contract work	(1) CA sheets				■															

Note: ■ planned ■ implemented

表 3-2-3 (2) WG-1 におけるモニタリング活動結果

Tasks	Input	Key items for checking process	Output	Period																	
				2010						2011						2012					
				4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3						
2-6-1. Development of inventory on main pollution sources (as 1st step).	(1) WG-1 (2) JET (3) Sub-contract work	(1) Design of Data Table (2) TOR of sub-contract work	(1) Pollution source inventory (preliminary version)																		
2-6-2. Upgrading of inventory on main pollution sources and preparing of simple pollution map	(1) WG-1 (2) JET (3) Sub-contract work	(1) Plan of database (2) TOR of sub-contract work (3) Discussion on pollution map	(1) Database of pollution sources (2) Pollution map																		
2-6-3. Upgrading of inventory on main pollution sources and preparing of simple pollution map	(1) WG-1 (2) JET	(1) Update of pollution source data and map	(1) Pollution map(upgrade d)																		
2-3-1. Development of draft Implementation Plan for Inspection and Administrative Guidance for pollution source in Halong area	(1) WG-1 (2) JET	(1) Information on current practices (2) Planning criteria	(1) Annual inspection implementation plan																		
2-3-2. Obtaining approval by CEM on the implementation plan of inspection and administrative guidance.																					
2-4-1b. Lecture on inspection and administrative guidance	(1) WG-1 (2) JET (2) Local experts	(1) Schedule and content of lecture	(1) Handouts of lecture																		
2-5-1b. Implementation of inspection and administrative guidance.	(1) WG-1 (2) JET (2) Local experts	(1) Implementation on schedule of inspection	(1) Inspection report (2) PR report																		

Note: ■ planned ■ implemented

表 3-2-3 (3) WG-1 におけるモニタリング活動結果

Tasks	Input	Key items for checking process	Output	Period																	
				2010						2011						2012					
				4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3						
2-5-2b. Continuous implementation of inspection and administrative guidance, preparation of implementation in the next year and conducting of training.	(1) WG-1 (2) JET (2) Local experts	(1) Implementati on schedule of inspection and training	(1) Inspection report (2) PR report (3) Next year implementati on plan of inspection																		
2-5-3b. Continuous implementation of inspection and administrative guidance, preparation of implementation in the next year and conducting of training.	(1) WG-1 (2) JET (2) Local experts	(1) Implementati on schedule of inspection and training	(1) Inspection report (2) PR report (2) Next year implementati on plan of inspection																		
2-7-1. Information collection of typical environmental pollution incidents in other similar area.	(1) WG-1 (2) JET (2) Local experts	(1) Survey schedule	(1) Survey report on environmental i ncidents																		
2-7-2. Examination on measures for preventing environmental incident in Halong area and propose it to CEM.	(1) WG-1 (2) JET (2) Local experts	(2) Discussion schedule	(3) Examination report on environmental i ncidents																		

Note: planned implemented

## (2) 現在の達成状況

修正された PDM(Ver.3)内の客観的に検証できる指標に基づき纏めた成果-2 の現在の達成状況を表 3-2-4 に示す。環境モニタリングのコンポーネントに関しては、2012 年に統合環境モニタリング計画の作成を進めている。計画の実施後は、得られたデータの評価に基づき、汚染防止に関する提案事項が CEM に提出される。汚染源のコンポーネントに関しては、環境チェックがこれまでの計画どおり実施されている。作成予定の汚染源データベースは深刻な公害に対し、行政指導が行われることに貢献することが期待出来る。

表 3-2-4 成果-2 における現在の達成状況

Output	Verifiable Indicator	Current Situation	Issues & Prospect	Action taken in the Next Work Period
Environmental monitoring, inspection, administrative guidance in Halong area are enhanced by DONRE and related organizations.	(1) Environmental Monitoring Plan in 2012 is formulated based on QN Inventory and relevant information from other WGs.	- WG-1 reviewed the current monitoring network and implemented water quality monitoring to examine necessity of additional sampling points.	- Further review on the current monitoring network should be implemented considering developed pollution source inventory.	- Further review on the current monitoring network will be carried out, and a detail monitoring plan for the proposed additional sampling points will be examined.
	(2) Number of environmental monitoring are achieved more than 80% of the number indicated in the Environmental Monitoring Plan in 2012.	- In 2012, the planned monitoring activities will be implemented.	- So far, no serious issue is existed.	- The IEMIP will be finalized, and implemented to obtain monitoring data.
	(3) At least 2 recommendations on pollution control are submitted to CEM based on obtained monitoring data.	- Existing water environment monitoring data were reviewed, and pollutants to be cared were identified. - Information of typical pollution sources in Halong area is being collected. - Tourism resources to be cared are being surveyed.	- For preparing recommendations, WG-1 will cooperate with other WGs. For cooperation, joint-discussion meeting will be planned.	- The IEMIP will be finalized, and implemented to obtain monitoring data.
	(4) Number of environmental check conducted is achieved 68 (80%) among 84 targets in 2011, and the numbers equivalent to 80% among targets to be set in 2012.	- By December 2011, a total of 86 environment checks were implemented.	- So far, the environmental check more than the target have been implemented by Sub-Department of EP and no special issue is existed.	- As the result of environment check in 2011, Sub-Department of EP has recommended to Inspection Division that the administrative sanction should be imposed to 4 entities
	(5) More than 80% of pollution sources found serious infringement cases are inspected with giving administrative guidance based on the check.	- Sub-Dept. of EP and Inspection Division have shared results of environmental check.	- So far, no special issue is in existence.	- The inspection by Inspection Division against 4 entities selected by Sub-Department of EP should be enforced.

注：Verifiable Indicators are quoted from the modified PDM (Ver. 3)

出典：JET

## 3.3 成果-3

### 3.3.1 キャパシティ・ディベロップメント計画

CD 計画は、ベトナム側カウンターパート(C/P)と JICA 専門家チームにて議論を通して作成・共有されている。成果-3 の CD 計画を表 3-3-1 に示す。

表 3-3-1 成果-3 における段階的な CD 計画

Output	CD Phase	I	II	III	IV
	Item				
Output-3	Objective of CD	- Clarification and sharing of goal and purpose of the Project	- Strengthening of capability on analysis of land use change and actual situation of land use	- Strengthening of capability on planning of land use measures with environmental considerations	- Strengthening of capability on comprehensive planning of action plan for the proposed measures
	Work content	- Establishment of Working Group 2 (WG-2) and preparation of the APO	- Satellite image analysis and mapping (GIS) on land use change for last ten years, mainly focusing on coastal area of the target area - Examination on land use change for last ten years by using results of the satellite image analysis, land use plan, and socio-economic data - Design and implementation of survey on actual implementation of land use right certificate and land recovery, mainly focusing on coastal area of the target area - Analysis of results of the survey	- Compilation and comprehensive analysis of results and development plan, mainly focusing on coastal area of the target area - Propose measures for adequate land use	- Prepare an “Action Plan for Proposed Measures in Coastal Environmental Protection Corridor for Halong Bay” to be approved by CEM/QN PPC
	Expected output	- Sharing activities and commitment are fostered through discussion meeting between WG-2 and JET	- Identification of issues due to land use change, especially affecting the environment in Halong Bay - Identification of issues due to inappropriate implementation of land use right certificate and land recovery, especially affecting the environment in Halong Bay	- Measures on land use management in coastal area with environmental considerations, especially protecting environmental in Halong Bay	- Action Plan for Proposed Measures in Coastal Environmental Protection Corridor for Halong Bay
	Sender	-JET	-JET	-JET -WG-2	-JET -WG-2
	Recipient	-WG-2	-WG-2	- WG-2 - Staff of organizations which WG-2 members belong to	- WG-2 - Staff of organizations which WG-2 members belong to
	CD activity	- Discussion on work plan for Output-3	- Lectures on Japanese system and experiences on land use management in coastal area with environmental considerations - Training on satellite image analysis, introduction of GIS, and survey on actual situation of land use and land recovery.	- Participatory workshop on logical and effective proposal of land use management measures in coastal area (OJT in planning) - Lectures on introduction of land use management measures in coastal area in Japan and other countries	- Participatory workshop on preparation of the Action Plan (OJT in planning) - Lectures on introduction of comprehensive coastal area management in Japan and other countries
	Period	May 2010 - Aug. 2010	Sept. 2010 - March. 2012	May 2012 - Aug. 2012	Sept. 2012 - Feb. 2013

出典：JET

CD 計画に基づき、達成状況の指標と目標値の設定について、実際の活動を踏まえて WG-2 メンバーと協議を行った。WG-2 に係り、第 4 回 CEM 会議にて承認された指標と目標値を表 3-3-2 に示す。

表 3-3-2 WG-2 に係る達成状況の指標と目標値

Output	Objectively Verifiable Indicators	Verification Method	CD Plan (period)	Remarks
Appropriate measures for land use management on coastal areas of Halong Bay are developed for better balance between environment and development in the Halong area.	Relevant measures of land use management for coastal areas in Halong area are submitted to QN PPC by 2013, which include 1 measure on land use zoning system with environmental consideration and 1 measure on restriction of reclamation.	Action Plan for measures of land use management for coastal areas in Halong area, which is made in the Project	Phase-IV (Sept. 2012 - Feb. 2013)	-JICA terminal evaluation be conducted.

注：The above table was prepared based on the modified PDM (Ver. 3).

### 3.3.2 現在の達成状況

#### (1) 活動結果のモニタリング

成果-3 の実際の活動は、Ic/R に基づいて計画及び実施された。成果-3 の主な活動は下記の通りである。

- 1) 主に沿岸の対象地域における土地利用変化と社会経済の状況の関係に対する実際の状況を分析及び調査
- 2) 主に沿岸の対象地域における土地利用登記と土地回復に対する実際の活動における評価
- 3) 主に沿岸の対象地域における環境保護を考慮した適切な土地利用のための施策の評価
- 4) 「ハロン湾の沿岸環境保全コリドーで提案された対策における活動計画」の作成
- 5) 研修プログラムは活動に関連して実施される

成果-3 における現在の活動の状況を表 3-3-3 にまとめた。2 年次では、ハロン湾における沿岸環境保全コリドー(CEPC)の境界線の決定や CEPC における対策について WG-2 の下で集中的に討論、検討された。3 年次においては CEPC の活動計画を作成する予定である。





## (2) 達成状況

成果-3 の現在の達成状況は、修正された PDM(Ver.3)内の客観的に検証できる指標に基づき、表 3-3-4 にまとめられている。下表に示す通り、様々な視点から、CEPC の対策への準備はいくつかの問題点があるものの、成果-3 のための GIS トレーニングと本邦研修の結果とこれまでのワーキンググループ協議の結果を通して、3 年次により活発な活動が期待される。

表 3-3-4 成果-3 における現在の達成状況

Output	Objectively Verifiable Indicators	Verification Method	Status by the End of the Project
Appropriate measures for land use management on the coastal areas of Halong Bay are developed for better balance between the environment and development in the Halong area.	Relevant measures of land use management for coastal areas in the Halong area are submitted to QN PPC by 2013, which include one measure on land use zoning system with environmental consideration and one measure on restriction of reclamation.	Action plan for measures of land use management for coastal areas in the Halong area is made in the Project	Draft action plan for the measures of land use management for coastal areas in the Halong area has been prepared with eight measures.

注：Verifiable Indicators are quoted from the modified PDM (Ver. 3)

出典：JET

## 3.4 成果-4

### 3.4.1 キャパシティ・ディベロップメント計画

CD 計画は、ベトナム側カウンターパート(C/P)と JICA 専門家チームにて議論を通して作成・共有される。成果-4 の CD 計画を表 3-4-1 に示す。

表 3-4-1 成果-4 における段階的な CD 計画

Output	CD Phase	I	II	III	IV
	Item				
Output 4	Objective of CD	-Clarification and sharing goal and objective	-Improvement of understanding on policy of natural resources and environmental management for sustainable tourism management	-Improvement of capability on formulation of policies for sustainable tourism development	-Strengthening of to implementation capability of policies for sustainable tourism development and facilitation of cooperation among the relevant organizations
	Work content	-Establishment of Working Group 3 (WG-3) and preparation of the APO	-Investigation of the actual status of natural resources and environmental management for sustainable tourism development -Preparation and upgrading of database for tourism resources and environmental management for sustainable tourism development and examination on its actual utilization -Preparation and implementation of the Pilot Project (Development of Eco-label for tourist boats)	-Utilization of the database -Analysis of obstructive factors of natural resources and environmental management for sustainable tourism development and development potential	-Analysis of obstructive factors of natural resources and environmental management for sustainable tourism development and development potential, and examination on measures -Proposal to QN PPC through the CEM of strategies for natural resources and environmental management for sustainable tourism development in Halong Bay (World Heritage site) and its vicinity
	Expected output	-Sharing activities and commitment are fostered based on declaration of establishment of the WG-3	-Policy on sustainable tourism is understood and can be explained through preparation of database on natural resources and environmental management for sustainable tourism development	-Results of examination on policy for natural resources and environmental management for sustainable tourism development can be compiled and explained to CEM.	-Measures for sustainable tourism can be proposed, and the database is upgraded and utilized continuously
	Sender	-JET -Vice Chairman of QNPPC	-JET -Vice Chairman of QNPPC -CEM	-JET -CEM	-CEM -WG-3
	Recipient	-WG-3	-WG-3	-WG-3 -Staff of relevant organizations of QNPPC	-Staff of relevant organizations of QNPPC
	CD activity	-Training of preparation of the APO	-Support for preparation of database on natural resources and environmental management for sustainable tourism development -Support for upgrading the database and for examination on its utilization -Training and support for analysis of obstructive factor for natural resources and environmental management for sustainable tourism development and development potential	-Training and support for utilization of the database and appeal to related organizations -Implementation of training in Japan on sustainable tourism and ecotourism	-Support for compilation and implementation of measures
	Period	May 2010 - Aug. 2010	Sept. 2010 - March. 2012	May 2012 - Aug. 2012	Sept. 2012 - Feb. 2013

出典：JET

CEM の達成評価を行うための指標及び目標レベルは、本 CD 計画に基づき、実際のプロジェクト活動の中で C/P によって協議された。第 4 回 CEM 会議にて承認された WG-3 の指標及び目標レベルを表 3-4-2 に示す。

表 3-4-2 WG-3 に係る達成状況の指標と目標値

Output	Objectively Verifiable Indicators	Verification Method	CD Plan (period)
Capacity for preparing measures for sustainable tourism in the Halong area is strengthened.	(1) 3 measures under each strategy for sustainable tourism in the Halong area are submitted to QN PPC by 2013.	1) Activity monitoring record 2) Preparation and submission of report on strategies and measures	Phase IV (Sep. 2012 – Feb. 2013)

注：Prepared based on the modified PDM (Ver. 3)

### 3.4.2 達成状況

#### (1) 活動結果のモニタリング

成果-4 の活動はインセプションレポートに従い、計画、実施される。成果-4 の主な活動は以下のとおり。

- 1) 自然・観光資源の既存情報、データの分析
- 2) 自然・観光資源のデータベースの作成
- 3) 自然・観光資源のデータベースの更新
- 4) 既存データの分析、ベースライン調査の結果、汚染源地図、土地利用計画などを活用した持続可能な観光開発の阻害要因の分析
- 5) 3-2-1 の結果を踏まえた持続可能な観光開発のためのポテンシャルの分析
- 6) WG と関連機関による持続可能な観光のためのパイロットプロジェクトの実施
- 7) ハロン湾における持続可能な観光の戦略と方策の形成と CEM を介しての QNPPC への提案

成果-4 の活動実績を表 3-4-3 に示す。

表 3-4-3(1) WG-3 におけるモニタリング活動結果

Tasks	Input	Key items for checking process	Output	Period												Reason/Solution				
				2010						2011							2012			
				4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3					
4-1-1 Analysis of existing information and data on natural and tourism resources	(1) WG-3 (2) JET (3) Local expert (4) Sub-contract work (Baseline survey)	(1) Record of discussion (2) Analysis record of collected data, statistics and reports (3) Field survey reports	(1) Result of data analysis on natural and tourism resources (2) Inventory of tourism resource (3) Final report of the baseline survey																	
4-1-2 Development of database (DB) on natural and tourism resources	(1) WG-3 (2) JET (3) Local expert (4) external source	(1) Record of discussions (2) Record of activities	(1) Basic approach and measures for DB (2) Developed DB on natural and tourism resources																	
4-1-3 Upgrading of DB on natural and tourism resources	(1) WG-3 (2) JET (3) Local expert	(1) Record of upgrading activities (2) Record of discussion	(1) Upgraded DB system and data																	
4-2-1 Analysis of obstacle factors for sustainable tourism development utilizing review of existing data, result of baseline survey, DB, pollution map, and features of land use	(1) WG-3 (2) JET (3) Local experts (3) WG-1, WG-2 (Data support) (4) Result of baseline survey	(1) Record of discussions (2) Findings and analysis data of obstacle factors for sustainable tourism	(1) Identified environmental degraded areas and tourism resources (2) Appropriate measures for solution of the negative factor Factors																	



**(2) 達成状況**

成果-4 の現在の達成状況は、修正された PDM(Ver.3)内の客観的に検証できる指標に基づき、表 3-4-4 にまとめられている。

**表 3-4-4 成果-4 における現在の達成状況**

<b>Output</b>	<b>Objectively Verifiable Indicators</b>	<b>Verification Method</b>	<b>Status by the End of the Project</b>
Capacity for preparing the measures for sustainable tourism in the Halong area is strengthened.	(2) Three measures under each strategy for sustainable tourism in the Halong area are submitted to QN PPC by 2013.	1) Proposal of the environmental protection for sustainable tourism development strategies in Halong Bay 2) Preparation and submission of report on strategies and measures	Selected priority measures have been accepted by QN PPC.

注：Verifiable Indicators are quoted from the modified PDM (Ver. 3)

出典：JET

**3.5 成果-5****3.5.1 キャパシティ・ディベロップメント計画**

CD 計画は、ベトナム側カウンターパート(C/P)と JICA 専門家チームにて議論を通して作成・共有される。成果-5 の CD 計画を表 3-5-1 に示す。

表 3-5-1 成果-5 における段階的な CD 計画

Output	CD Phase	I	II	III	IV
	Item				
Output-5	Objective of CD	-Clarification and sharing goal and objective	-Strengthening of planning capability for environmental education (EE) and public relations (PR) -Strengthening of implementation and improvement capability for EE&PR	-Strengthening of capability to expand activities with involving relevant stakeholders	-Strengthening and continuation of EE&PR in connection with central government such as MONRE
	Work content	-Establishment of Working Group 4 (WG-4) and preparation of the APO -Implementation of launching event	-Examination on strategy of EE&PR and contents of support, and preparation of related materials -Utilization of equipment and materials for EE&PR -Implementation of campaigns, events, and workshops	-Making of an expansion plan on EE&PR -Preparation of workshops and seminars held in phase IV	-Implementation of workshops and seminars in cooperation with central government
	Expected output	-Sharing activities and commitment are fostered based on declaration of establishment of the WG-4	-Activities based on APO of the Project are positively implemented.	-APO including budget plan can be prepared and implemented. -Activities can be conducted in cooperation with other relevant organizations.	-Activities of EE&PR can be conducted for prevention of environmental pollution and natural resource destruction in Halong area, in cooperation with the central government. -Budget is secured and activities are conducted continuously.
	Sender	-JET -Vice Chairman of QNPPC	-JET -Vice Chairman of QNPPC -CEM	-JET -CEM	-CEM -WG-4
	Recipient	-WG-4	-WG-4	-WG-4 -Staff of relevant organizations of QNPPC	-Staff of relevant organizations of QNPPC -Tourism-related business, tourists, local residents
	CD activity	-Training of preparation of the APO	-Support for examination on strategies -Support for planning and implementation of activities	-Support for preparation of an expansion plan on EE&PR -Support for preparation and implementation of APO including budget plan	-Support for linkage among central government and related organizations of QNPPC toward sustainable tourism
	Period	May 2010 - Aug. 2010	Sept. 2010 - Mar. 2012	May 2012 - Aug. 2012	Sept. 2012 - Feb. 2013

出典：JET

CD 計画に基づき、達成状況の指標と目標値の設定について、実際の活動を踏まえて WG-4 メンバーと C/P は協議を行った。第 4 回 CEM 会議にて承認された WG-4 の指標と目標値を表 3-5-2 に示す。

表 3-5-2 WG-4 に係る達成状況の指標と目標値

Output	Objectively Verifiable Indicators	Verification Method	CD Plan (period)
Effective environmental education and public awareness are implemented and the outputs are shared with other areas.	(1) Awareness level of residents and tourists in Halong area on the Project and the environmental protection is improved by 2013.	a) Questionnaire surveys targeting residents and tourists	Phase-II and III (Sept. 2010 - Aug. 2012)
	(2) More than 2 developed activities of EE&PR are continued to implement with budget	a) Decision by CEM b) budget plan	Phase-II and III (Sept. 2010 - Aug. 2012)
	(3) More than 100 tourism boats collaborate and more than 100 volunteers participate EE&PR	a) tourist boats: collected data record of secchi disk b) volunteers: activity record	Phase-II and III (Sept. 2010 - Aug. 2012)

注：Prepared based on the modified PDM (Ver. 3)



### 3.5.2 達成状況

#### (1) 活動モニタリング結果

成果-5 の実際の活動は、Ic/R に基づいて計画及び実施された。成果-5 の主な活動は下記の通りである

- 1) 住民向け環境教育・広報教材の開発
- 2) 環境教育・広報活動の実施
- 3) 環境教育・広報に係る各種キャンペーン、イベント、ワークショップの開催

成果-5 の現状の活動状況は、表 3-5-3 に示さす。

表 3-5-3 WG-4 におけるモニタリング活動結果

Tasks	Input	Key items for checking process	Output	Period												Reason/Solution
				2010			2011			2012			2013			
				4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	
5-1 Developing community-friendly materials for EE and PR	(1) CEM (2) PMB (3) JET	1) Discussion Meeting 2) Regular meeting for project management	1) Promotion goods, equipment and materials for EE&PR													
5-2 Implementation of activities for EE and PR "	(1)CEM (2) PMB (3) WG-4 (4) JET	1)Discussion Meeting 2)Regular meeting for project management	1)Activity record													
5-3 Holding campaigns, events, workshops for EE and PR	(1) PMB (2) WG-4	1)Discussion Meeting 2)Regular meeting for project management	1)Activity record													

Note: ■ : planned, ■ : actual

## (2) 達成状況

成果-5 の現在の達成状況は、修正された PDM(Ver.3)内の客観的に検証できる指標に基づき、表 3-5-4 にまとめられている。

表 3-5-4 成果-5 における達成状況

Output	Verifiable Indicators	Verification Method	Status by the End of the Project
Effective environmental education and public awareness are implemented and the outputs are shared with other areas.	(1) Awareness level of residents and tourists in the Halong area on the Project and the environmental protection is improved by 2013.	a) Questionnaire surveys targeting residents and tourists	Awareness level of residents in the three model areas (Hung Thang Ward, Bai Chay Ward, and Hong Hai Ward) became high based on the results of the baseline surveys.
	(2) More than two developed activities of EE and PR are continued to be implemented with budget.	a) Decision by CEM b) Budgetary plan	Mobile-EE, Secchi disk movement, eco-lecture, eco-fair will be continued by Halong Environmental Education Association (HLEEA) based on the activity plan, including a budgetary plan.
	(3) More than 100 tourism boats collaborate and more than 100 volunteers participate in EE and PR.	a) Tourist boats: collected data record of Secchi disk b) Volunteers: activity record	a) Tourist boats: 26 tourist boats cooperated in using Secchi disks: It did not attain 100. Establishment of the routine data recording by the participating boats and dissemination of the Secchi disk will be continued even after the Project. b) Volunteers: a total of 300 volunteers participated in Mobile-EE (141), promotion of Secchi disks (43), eco-fair (63), clean-up activity (23), and mangrove planting (30).

注：Verifiable Indicators are quoted from the modified PDM (Ver. 3)

出典：JET

## 第4章 成果品についての概要

2011 年度の業務期間中に準備、作成した成果品は以下に示すとおりである。

表 4-1 成果品リスト

報告書及び技術資料など	提出時期	備考
プロジェクト事業進捗報告書(第3号)	2011年9月	英文18部(うち先方へ15部) 和文3部 越文16部(うち先方へ15部) レポートのCD-ROM(英・和・越文)
プロジェクト事業進捗報告書(第4号)	2012年3月	英文18部(うち先方へ15部) 和文3部 越文16部(うち先方へ15部) レポートのCD-ROM(英・和・越文)
業務完了報告書(第2011年度)	2012年3月	和文3部 レポートのCD-ROM

## 第5章 相手国との会議議事録

2012年度の業務期間中の相手国との以下の協議議事録を添付資料-1～添付資料-3に示す。

表 5-1 2012年度の相手国との主な協議

No	協議名	開催日	添付資料番号
1	第6回CEM会議	2012年11月16日	添付資料-1
2	第7回CEM会議	2012年12月13日	添付資料-2
3	総括セミナー	2012年12月14日	添付資料-3

## 第6章 調達機材のリスト

2012 年度に本プロジェクトで調達した機材リストを下表に示す。

表 6-1 機材リスト (供与機材)

No	項目	内容	数量
1	水質分析に係るスペアパーツ及び試料	1) AAS lump Cd	1
		2) AAS lump Pb	1
		3) DO meter	1
		4) Mantles	1
		5) Sholet	6
		6) Ammonium iron sulfate	1
		7) Mercury sulfate	1
		8) Rapture disk	1 set
		9) UV lump	1
		10) VHS lump	1
		11) Pipet piston 1mL	1
		12) Pipet piston 1mL	1
		13) Pipet piston 10mL	1
		14) Quartz 1cm	1
		15) Quartz 5cm	1
		16) Silica T Cells	1

## 第7章 収集資料一覧表

収集資料一覧表を添付資料-4 に示す。

## 第8章 その他

### (1) 現地再委託の概要

2012 年度では、成果-2、成果-3 および成果-4 に関して下表に示す現地再委託を実施した。現地再委託の概要は、添付-5 に示すとおりである。

再委託業務名	関連成果
(1)汚染源インベントリ (その2)	成果2：環境管理
(2)観光客アンケート	成果3：ハロン湾の持続可能な観光のための施策の立案能力の強化
(3)環境教材作成及び環境教育広報活動 (その2)	成果4：環境教育・広報



**添付資料-1**  
**第 6 回 CEM 会議の議事録**

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**MINUTES OF MEETING  
ON  
THE SIXTH MEETING OF  
COMMITTEE FOR ENVIRONMENTAL MANAGEMENT  
FOR  
THE PROJECT FOR ENVIRONMENTAL PROTECTION  
IN HALONG BAY**

16 November 2012

沖原 又 子

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Mr. FUMIHIKO OKIURA  
Senior Representative  
JICA Vietnam Office




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Mr. YOICHI IWAI  
Chief Advisor  
JICA Expert Team  
The Project for Environmental  
Protection in Halong Bay



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Mr. NGUYEN MANH CUONG  
Standing Deputy Head of the Steering  
Committee for Environmental Management  
(CEM), The Project for Environmental  
Protection in Halong Bay  
Director  
Department of Natural Resources and  
Environment of Quang Ninh Province  
Quang Ninh Provincial People's Committee  
The Socialist Republic of Vietnam



In accordance with the Inception Report (Ic/R) for the Project for Environmental Protection in Halong Bay (the Project) in September 2010, the Steering Committee for Environmental Management (CEM) in cooperation with the Japan International Cooperation Agency (JICA) and the JICA Expert Team (JET) organized the Sixth CEM Meeting (the Meeting) on 16<sup>th</sup> November 2012 in the Meeting Room of Quang Ninh Province People's Committee in Halong City. This is a discussion record describing comments and opinions of the participants in the Meeting. The list of attendants and the agenda of the meeting are enclosed in Attachment-1 and Attachment-2, respectively.

As instructed by Quang Ninh Provincial People's Committee (QN PPC), the Meeting was chaired by Mr. Nguyen Manh Cuong, Director of DONRE, Standing Deputy Head of CEM. After the opening speech made by Mr. Nguyen Manh Cuong, Mr. Fumihiko Okiura, Senior Representative of JICA Vietnam Office made his opening remarks. Then, the report on training in Japan for WG-3 and WG-4 and outcomes of each output were presented by the representatives of the Vietnamese Counterparts and the JICA Expert Team. Mr. Senro Imai, JICA Terminal Evaluation Mission Leader gave presentations on the Results of the Terminal Evaluation of the project which was carried out during the period from 31<sup>st</sup> October to 16<sup>th</sup> November 2012.

Representing DONRE, the state management of environment for Quang Ninh Province, Dr. Hoang Danh Son Deputy Director of DONRE gave his presentation on oriented policies for Halong Bay environment protection and management to 2020. The presentation contents include (i) Current state of Environment and Waste Management in Quang Ninh Province and Halong Bay; (ii) Strategic Orientation and Policies of Quang Ninh Province in implementation of green growth for Halong Bay; (iii) Results of Cooperation between Quang Ninh Province and the Government of Japan; and (iv) Proposals on Environmental Protection Projects to JICA namely (1) Master Plan for Environment Protection in Quang Ninh (Recommendation of consultants); (2) Continuity of Phase 2 of the "Project for Environment Protection in Halong Bay" (technical support for promotion of effectiveness); (3) Formulation of overall project for improvement of environment in Halong City area (participating in construction consultants); (4) Formulation of project form improvement, recovery of overall environment in Quang Ninh, focusing on mineral, coal exploitation operation (participating as construction consultant); and (5) Halong City Environment Protection in Halong Bay (ODA fund support).

After the above presentations, discussions were conducted under the chairmanship by Mr. Nguyen Manh Cuong as follows:

1. Comments by Mr. Nguyen Manh Ha, Deputy Head of Halong Bay Management Department

Mr. Ha raised some questions concerning (i) HBMD has studied many instruction letters from Quang Ninh Provincial's Council, QNPPC and HBMD is now also a member in the working team to prepare draft resolution of the Quang Ninh Provincial Council on preservation and promotion of the value of the World Heritage Halong Bay; Mr. Ha requested DONRE and JET to provide specific targets, objectives in treatment of wastewater and solid waste in Halong Bay; (ii) HBMD understands that the coastal urban area causes negative impacts to the environment in Halong Bay. According to the Halong Bay World Heritage Site Protection Plan (Period 2011- 2015) approved by the PPC, HBMD is supposed to carry out many activities including mangrove planting, coral reef zoning, assessment of impacts caused by rising of sea water level due to climate change, etc. HBMD is implementing these tasks and has difficulties in experiences and human resources. HBMD requests if it is possible that the experts can share their experience for implementation task.

Mr. Nguyen Manh Cuong answered as follows: (i) there is a specific planning which has been prepared by Department of Construction (DOC) in terms of solid wastes and wastewater collection and treatment. HBMD is recommended to discuss in details with DOC for this document; (ii) Difficulties in human resources are the general matter in environment management and protection in the entire province. At the moment, investors are being appealed to participate in bidding for exploitation and promotion of the World Heritage Value of Halong Bay which then can contribute to increase of fund collection for further investment in Halong Bay.

2. Comments by Mr. Hoang Ba Nam, Secretary of Provincial Youth Union (YU)

(1) Establishment of Halong Environment Education Association (HLEEA)

Mr. Hoang Ba Nam has great interests in the report on results of activities of WG-4 and agrees on the establishment of the association. Mr. Nam pointed out that it is compulsory to follow the Decree 45 of the Government for the establishment which takes time and requires many procedures. Mr. Nam

requested DONRE leader to speed up this activity with close cooperation with the Home Affair Department for the HLEEA to be launched before the end of the project. YU committed to participate in preparation of people to join the Association.

In this connection, Mr. Nguyen Manh Cuong answered that necessary procedures have been under preparation with the Home Affair Department in an effort to launch the association on 1st December.

(2) Proposed Projects to JICA

Among those proposals that are made by DONRE in the presentation of Dr. Hoang Danh Son, Deputy Director, Mr. Nam was most interested in the project for treatment of domestic wastewater before discharging into Halong Bay. Mr. Nam expressed his request to JICA for support of equipment and technology for the facilities concerned.

To this end, Mr. Nguyen Manh Cuong said that there is an ODA proposed project of 110 million USD which covers water supply and sewage for Halong City. This project is now being proposed by the Ministry of Planning and Investment to the JICA Vietnam Office.

(3) Planting of Mangrove

Mr. Nam commented that the training in Japan that his staff who is member of WG-4 joined was very meaningful in terms of managerial method, way to think, and way to solve matters. However, some of the learnings just cannot be applied as exactly in Vietnam. An example is planting of mangrove. It is noted that in Japan, preparatory work is made very carefully so that it contributes to high proportion of mangrove to be alive after being planted. But it is not the same as in Vietnam due to some problem with the water environment.

In this connection, Mr. Nguyen Manh Cuong suggested that it is necessary to carry out coastal pollution assessment for the best effective and appropriate method of mangrove planting to be applied.

3. Comments by Ms. Nguyen Thi Vinh, Vice Chairman of Provincial Women Union

Ms. Nguyen Thi Vinh agreed on the reports of WG-4 and of the evaluation team on the implemented outputs. However, Ms. Vinh said that in the proposed establishment of HLEEA, she cannot find the participation of the Women's Union and Youth Union as expected collaboration agencies in the slide of Mr. Yoichi Iwai. Ms. Vinh emphasized that they always commit to participate in the most active manner.

Ms. Nguyen Thi Vinh also requested that if it is possible, the Provincial Labour Federation should be added as one of the collaboration agencies.

Mr. Nguyen Manh Cuong answered that agencies listed in collaboration agencies are suggestions with the hope that the entire politic system also join including the National Father Front and all social organizations and sectors. The purpose to establish HLEEA is for the community and all social organizations for better effective operation and later financial support from enterprises will be called for as socialization purposes.

4. Comments by Mr. Dang Hung, Deputy Director of Quang Ninh Transportation Department (DOT)

(1) Concerning the Coastal Environment Protection Corridor (CEPC)

It is acknowledged that the project has carried out studies and discussions in the process to determine the proposed CEPC. The next action should be focused on now is to organise appraisal of CEPC in an effort to formulate the legal foundation thereby a decision shall be released concerning announcement of the corridor.

In this connection, Mr. Nguyen Manh Cuong said that at the moment the project for Integrated Coastal Management is being promoted which also considers the CEPC.

(2) Social Experiment on 1<sup>st</sup> December 2012

It is not so far from the day of this meeting to the above mentioned date for the Social Experiment so that proper preparatory work has to be made in terms of traffic control, blockage of some roads, arrangement of sign boards, guidance for people, etc. in order to soon inform the concerned sectors and people, assuring convenience of routine activities of local residents.

Mr. Nguyen Manh Cuong said that DONRE shall coordinate with DOT, Traffic Police and related departments, sector for timely implementation of the experiment. He also added that after this experiment, it is desired to apply this modal of traffic safety in Bai Chay beach road section every Saturday afternoon in an effort to develop a new habit for the community, including: prohibition of big buses and vehicles crossing the experimented area, the Hau Can road should be used instead and the prohibition will be in certain period of time for the convenience of the local residents.

This practice shall contribute to traffic safety and maintain sustainable tourism development.

5. Comments by Mr. Hoang Quoc Thai, Deputy Director of Culture, Sports and Tourism

Concerning establishment of the association, Mr. Hoang Quoc Thai suggested applying it as a Special Association then it can get annual budget from the province for their annual operation expenditure. However, it is still recommended that the Association should look for financial supports from various donors.

To this end, Mr. Nguyen Manh Cuong said that DONRE shall follow Decree 45 of the Government to carry out the procedures.

6. Comments by Mr. Hoang Quang Hai, Vice Chairman of Halong City People's Committee

Mr. Hoang Quang Hai expressed his consent to the reports presented and added that Halong PC now is starting a very huge and complicated programe to relocate 625 households, equivalent to more than 3,000 residents from floating villages in Halong Bay to the land. This is a new task that Halong PC really needs advices on how to maintain the floating villages as a typical cultural feature of Halong Bay to continue to serve tourism purposes in parallel with maintenance of the environment.

Mr. Hai also added that the City is also having difficulties concerning treatment of solid waste and wastewater and that he hopes in the coming time the project consultants can propose to the PPC necessary measures for implementation. After project completion, it is requested that communication activities should be maintained for environment protection which is one of the project outputs.

In this connection, Mr. Nguyen Manh Cuong said that relocation of floating villages is a big programe. Majority of fishing villages are elderly people and children. It is the PPC's intention to maintain the culture of the village for tourism development and the PPC wants to have projects for study of the fishing village's culture.

7. Mr. Tadashi Suzuki, Representative of JICA Vietnam Office

Mr. Tadashi Suzuki is very glad about the project implementation and said that the project for Quang Ninh is now soon finalized and produces it products, i.e. strategies for environment protection for the province. Mr. Tadashi Suzuki emphasized that it is more important for the Vietnamese side to implement the proposed strategies keeping in mind the initiatives for implementation. Mr. Tadashi Suzuki added that he is looking forward to the final workshop of the project which is scheduled on the 15<sup>th</sup> December 2012.

8. Mr. Fumihiko Okiura, Representative of JICA Vietnam Office

Mr. Fumihiko Okiura highly appreciates the reports presented in the workshop which show very high index of ownership that has been gained which is very crucial and contribute significantly to the project achievements; he said that in his experience this project will complete successfully. Mr. Fumihiko Okiura also congratulates JET for their great effort contribution to the project.

He found that the proposed projects to JICA made by the Vietnamese side in their reports are very fruitful information further discussions by JICA Vietnam, proposing JICA head office in Tokyo to realize further cooperation.

## 9. Conclusions

Mr. Nguyen Manh Cuong acknowledged and praise the endeavours made by the PMB, all WGs and the JET for project implementation. He also gives his consent to the conclusions of terminal evaluation report done by the evaluation team.

Mr. Nguyen Manh Cuong concluded the meeting as follows:

- (1) Contents of Progress Report No. 5 are now approved.
- (2) Works that requires cooperation between PMB and JET to complete:
  - ✓ Finalisation Pollution Source Database
  - ✓ Finalisation of determined CEPC
  - ✓ Finalisation of developed strategies and measures for sustainable tourism development
  - ✓ Finalisation of procedures for establishment of HLEEA.
  - ✓ Organisation of ECO-Fair 2012, Social Experiment on 1<sup>st</sup> December 2012.
  - ✓ All working groups complete their documents for project completion as per the Vietnamese Law.

Mr. Cuong highly appreciate the project outputs of which many ideas have been applied including the Eco label project, traffic safety improvement and ECO-fair.

Finally, on behalf of CEM, Mr. Nguyen Manh Cuong expressed his sincere thanks to the great attention paid by JICA to Quang Ninh Province in general and to the Project in particular with many favourable conditions to facilitate the project's success and promotion of its effectiveness in the future.

End



**List of Attendants of the Sixth CEM meeting***[Vietnamese Side]*

1. Mr. Nguyen Manh Cuong Director of DONRE, Standing Deputy Head of CEM
2. Mr. Hoang Danh Son Deputy Director of DONRE, Deputy Head of CEM, Head of PMB
3. Mr. Luong Y Duoc Ex- director of DONRE
4. Mr. Mac Thanh Luan Deputy Director of Quang Ninh Financial Department
5. Mr. Huynh Hung Head of Planning Section, Construction Department
6. Mr. Dang Hung Deputy Director of Transportation Department, CEM member
7. Mr. Hoang Quoc Thai Deputy Director of Culture, Sport and Tourism, CEM member
8. Mr. Pham Ngoc Thuy Deputy Director of Industry and Commerce
9. Mr. Ha Van Giang Deputy Head of Exploitation & Fisheries Resources Protection, Department of Agriculture & Rural Development, CEM member
10. Ms. Nguyen Thi Vinh Vice Chairwoman of Women Union of Quang Ninh, CEM member
11. Mr. Hoang Ba Nam Secretary of Provincial Youth Union of Quang Ninh, CEM member
12. Mr. Nguyen Manh Ha Deputy Head of Halong Bay Management Department
13. Mr. Hoang Quang Hai Vice Chairman of Halong City People's Committee
14. Mr. Trieu Hai Vice Chairman of People's Committee of Hoanh Bo District, CEM member
15. Mr. Tran Van Hung Vice Chairman of People's Committee of Cam Pha Town, CEM member
16. Ms. Nguyen Thi Thao Deputy Head of Tourism Resource Development Section, DCST
17. Mr. Le Tien Manh Expert of QNPPC Office
18. Mr. Hoang Viet Dung Director of Sub-Dept. for Environmental Protection, Quang Ninh DONRE, Deputy Head of PMB
19. Ms. Nguyen Thi Thu Thuy Deputy head of Sub-Dept. for Environmental Protection, DONRE, Secretary of the PMB
20. Ms. Nguyen Thu Huyen Head of Administrative – General Section, Sub-Dept. for Environmental Protection, DONRE, Member of the PMB
21. Ms. Tran Thi Minh Thu Deputy head of Appraisal – License, Sub-Dept. for Environmental Protection, DONRE, Member of the PMB
22. Ms. Phan Thi Hoang Hao Staff of Sub-Dept. for Environmental Protection, DONRE, Member of the PMB
23. Ms. Do Thi Ni Tan Head of Monitoring and Analysis Section-2, EMAC, DONRE, Head of WG-1
24. Mr. Nguyen The Thuc Deputy Head of Planning-Financial Division, DONRE, Head of WG-2
25. Mr. Tran Van Thuan Deputy Head of Sea and Islands Sub-department, DONRE, Head of WG3
26. Ms. Nguyen Thi Van Deputy Head of Tourism Promotion and Information Centre, DCST member of WG-3
27. Ms. Nguyen Thi Thu Trang Deputy Head of External Economic Section, DPI, member of WG-3
28. Mr. Pham Quang Vinh Deputy Head of Sub-dep. for EP, Head of WG-4
29. Ms. Dang Thi Hai Yen Head of Appraisal-License Section, Sub-dep. for EP, DONRE, Member of WG-4
30. Ms. Vu Thi Hang Staff of Sub-dep. for EP, DONRE
31. Ms. Nguyen Thi Hang Staff of QNPPC Office
32. Ms. Nguyen Thuy Quynh Staff of QNPPC Office
33. Ms. Nguyen Thi Thoan Staff of QNPPC Office
34. Mr. Ngo Quang Tung Staff of QNPPC Office
35. Ms. Nguyen Thi Minh Staff of QNPPC Office



*[Japanese Side]*

*JICA Vietnam Office*

- |                         |                                       |
|-------------------------|---------------------------------------|
| 36. Mr. Fumihiko Okiura | Deputy Representative of JICA Vietnam |
| 37. Mr. Tadashi Suzuki  | JICA Representative in Vietnam        |
| 38. Mr. Nguyen Vu Tiep  | Program officer, JICA Vietnam office  |
| 39. Mr. Senro Imai      | JICA Headquarter in Japan             |
| 40. Mr. Nishioniga      | JICA Evaluation Expert                |
| 41. Ms. Do Hoang Ngan   | Interpreter                           |

*JICA Expert Team*

- |                             |                                   |
|-----------------------------|-----------------------------------|
| 42. Mr. Yoichi Iwai         | Chief Advisor of JICA Expert Team |
| 43. Mr. Tomoo Aoki          | Land Use Management Expert        |
| 44. Mr. Norihisa Hirata     | EE and PR Expert                  |
| 45. Mr. Minami Atsushi      | Coordinator                       |
| 46. Mr. Nguyen Thanh Phuong | Assistant                         |
| 47. Ms. Duong Thi Nhuan     | Interpreter of JICA Expert Team   |
| 48. Ms. Bui Thi Cuong       | Interpreter of JICA Expert Team   |
| 49. Ms. Tran Thi Mai Lan    | Interpreter of JICA Expert Team   |
| 50. Ms. Ha Thi Minh Phuong  | Secretary of JICA Expert Team     |

*[Mass Media]*

- |                           |                          |
|---------------------------|--------------------------|
| 51. Mr. Hoang Manh Truong | Information Center-QNPPC |
| 52. Ms. Pham Thu Trang    | Quang Ninh Newspaper     |
| 53. Mr. Nguyen Van Hung   | Quang Ninh Television    |
| 54. Tam Vu                | Quang Ninh Television    |

**THE SIXTH CEM MEETING OF  
THE PROJECT FOR ENVIRONMENTAL PROTECTION IN HALONG BAY  
Agenda**

**1. Objectives**

The objectives of the 6th CEM Meeting are as follows;

- 1) To discuss current activities on the Project, and approve the Progress Report-5 (Pr/R(5)),
- 2) To discuss the results of the terminal evaluation, and
- 3) To discuss future plans on environment management in Halong Bay by QN PPC

**2. Attendants**

- a) Mr. Dang Huy Hau, Vice-chairman of the PPC (meeting chairman)
- b) Members of CEM
- c) Representatives of JICA Vietnam
- d) JICA Expert in MONRE
- e) Members of PMB and head of WGs
- f) JICA Expert Team
- g) Expert of Quang Ninh PPC office in charge of the project
- h) Quang Ninh television
- i) Quang Ninh Newspaper, Information Centre - Quang Ninh PPC Office.

**3. Date and Venue**

(1) Date: 16 (Fri), November, 2012, Time: 07:30 -12:00

(2) Venue: PPC's Meeting Room <simultaneous interpretation: Vietnamese =English>

**4. Program of the 6th CEM Meeting**

Program of the 6th CEM Meeting

Contents	Presentation	Time	Remarks
Reception	-	07:30-08:00	PMB and JET
1. Opening Statement	Mr. Dang Huy Hau (Vice-chairman of QN PPC)	08:00-08:05	Proceeding by Mr. Hoang Viet Dung (Director of Sub-Dept of Environmental Protection, DONRE)
2. Opening Remarks	Mr. Fumihiko Okiura (Senior Representative of JICA VN Office)	08:05-08:10	ditto
3. Report of Training in Japan for WG-3 and WG-4 (Participants of the Training in Japan)	Ms. Nguyen Thi Thu Trang (Member of WG3)	08:10-08:20	ditto
4. Presentation of WG-1 Activities (Environment monitoring & pollution source control)	Ms. Do Thi Ni Tan (Head of WG-1)	08:20-08:30	ditto
5. Presentation of WG-2 Activities (Land use management)	Mr. Nguyen The Thuc (Head of WG-2)	08:30-08:40	ditto
6. Presentation of WG-3 Activities (Sustainable tourism management)	Ms. Nguyen Thi Van (Member of WG-3)	08:40-08:50	ditto
7. Presentation of WG-4 Activities (Env. Education & Public Relations)	Mr. Pham Quang Vinh (Head of WG-4)	08:50-09:00	ditto
8. Presentation of Pr/R(5) and Activities in the remaining project period	Mr. Yoichi Iwai (Chief Advisor of JET)	09:00-09:10	ditto
Coffee Break		09:10-09:25	
9. Presentation of the Result of the Terminal Evaluation	Mr. Senro Imai - JICA Terminal Evaluation Mission Leader)	09:25-09:50	ditto
10. Presentation of some oriented policy for protection of Halong Bay Environment to 2020	Mr. Hoang Danh Son, Deputy Director of DONRE	09:50-10:05	ditto
11. Discussion (Q and A)	All participants	10:05-11:50	ditto
12. Closing Remarks	Mr. Dang Huy Hau (Vice Chairman of QN PPC)	11:50-12:00	ditto
Luncheon		12:00	

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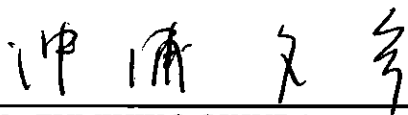
**添付資料-2**  
**第 7 回 CEM 会議の議事録**

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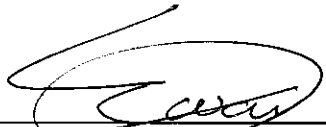
**MINUTES OF MEETING  
ON  
THE SEVENTH MEETING OF  
STEERING COMMITTEE FOR ENVIRONMENTAL MANAGEMENT  
FOR  
THE PROJECT FOR ENVIRONMENTAL PROTECTION  
IN HALONG BAY**

13th December 2012



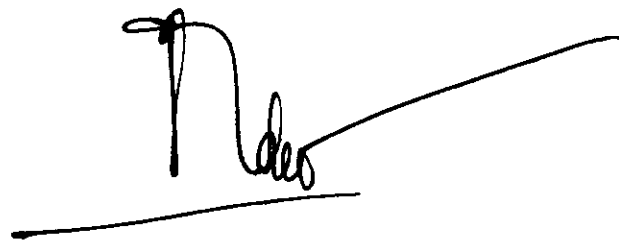
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**Mr. FUMIHIKO OKIURA**  
Senior Representative  
JICA Vietnam Office




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**Mr. YOICHI IWAI**  
Chief Advisor  
JICA Expert Team  
The Project for Environmental  
Protection in Halong Bay



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**Mr. DANG HUY HAU**  
Head of CEM  
Vice Chairman of Quang Ninh Provincial  
People's Committee  
The Socialist Republic of Vietnam



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In accordance with the Inception Report (Ic/R) for the Project for Environmental Protection in Halong Bay (the Project) in September 2010, the Steering Committee for Environmental Management (CEM) in cooperation with the Japan International Cooperation Agency (JICA) and the JICA Expert Team (JET) organized the Seventh (Final) CEM Meeting (the Meeting) on 13th December 2012 in the Conference Hall of Halong Plaza Hotel in Bai Chay Ward, Halong City. The Meeting was chaired by Mr. Dang Huy Hau, Vice Chairman of Quang Ninh PPC, Head of CEM. After the opening speech and opening remark made by Mr. Dang Huy Hau, Vice Chairman of PPC and Mr. Fumihiko Okiura, Senior Representative of JICA Vietnam Office, participants heard presentations implemented by representative of PMB and JET.

This is a discussion record describing comments and opinions of the participants in the Meeting. The list of attendants and the agenda of the meeting are enclosed in Attachment-1 and Attachment-2, respectively.

## **1. Presentations**

The following presentations were made:

- (1) Report on Project Implementation Results and Future Plan presented by Dr. Hoang Danh Son, Head of PMB.
- (2) Proposal of Environmental Protection for Sustainable Tourism Development Strategy and summary of PCR. Presented by Mr. Yoichi Iwai, Chief Advisor of JET.

In addition to the above presentations which were planned in the agenda, a presentation on review results of the Social Experiment for Improvement of Traffic Safety and Landscape in Bai Chay Road was made by Mr. Tomoo Aoki, Land Use Management Expert of JET.

## **2. Comments by participants**

- (1) Suggestions and comments of Mr. Dang Huy Hau, Vice Chairman of the Provincial People's Committee, Head of CEM
  - 1) Mr. Dang Huy Hau suggested that following aspects should be focused on to discuss by participants:
    - a) Strengths and weaknesses in the direction, operation and coordination during implementation of the Project. The contents and achieved results and how many percentages of achievement compared to the posed planning.
    - b) The activities will be done after ending of the Project including environmental education, development of eco-label for tourist boats and a number of environmental measures.
    - c) The content of proposal for Phase 2 such as (i) environmental protection measures in Halong Bay including solid, liquid and gaseous wastes treatment from the operation of ships and fisheries production in the Bay. The collected solid waste in the Bay should be transferred to mainland for processing or will be treated on the Bay by construction of a mini-incinerator, and (ii) environmental protection and landscape for the Bay, the caves and the islands in the Bay.
  - 2) Concerning the current status of environmental protection in Halong Bay, Mr. Hau commented as follows:
    - a) The tourism sector still has some limitations such as (i) poor quality of tourism service, number of tour is little causing pollution, overloading and unsafe for visitors, (ii) poor tourism products, not meet the needs of visitors, and (iii) low quality of human resources and low professionalism.

- b) Weak sanctions without strictly handling violations
  - c) Currently, HBMD could not meet the requirement of environmental management in Halong Bay with its structure, functions and small manpower.
- 3) QNPPC will establish the Environmental Protection Committee Chaired directly by Mr. Dang Huy Hau. In addition to the CEM members in Phase 1 (current project), the leader of some relevant departments such as the Department of Agriculture and Rural Development and VINCOMIN will be members of the Committee. Quang Ninh PPC will collaborate with relevant ministries such as Ministry of Agriculture and Rural Development and Ministry of Culture, Sports and Tourism in the implementation process.
  - 4) Regarding the social experiment for improvement of traffic safety and landscape in Bai Chay Road on 1st December, since the activity was experimented on the day with less tourist number, maybe, we did not see all the problems. It must be more tested to have the correct assessment. In the next experiment, it should be applied in the Saturday afternoon in the tourism season with more tourists. In addition to use of the electric cart, the tourists can walk inside the pilot area. However, it should be disseminated and informed to the hotel before application. Provincial government will have a mechanism to support the implementation.
- (2) Questions and comments by Mr. Tadashi Suzuki, JICA Vietnam office
- 1) In the ending part of the presentation by Dr. Hoang Danh Son and Mr. Yoichi Iwai, there were recommendations. However, budget for preparatory work should be estimated in order to implement the recommendations. Mr. Suzuki would like to know the preparatory budget and human resources by Quang Ninh PPC for recommendations implementation.
  - 2) Social experiment for improvement of traffic safety presented by Mr. Tomoo Aoki was very interesting. However, budget is required to buy the cart to perform this activity. Did you analyze the cost effectiveness?
  - 3) Concerning HLEEA, what is being prepared for its operation?
- (3) Answers by Dr. Hoang Danh Son for Mr. Suzuki on HLEEA
- 1) Decision for HLEEA establishment is under approval by Quang Ninh PPC according to Decree No.45 of the Government. Implementation of EE will have more advantage and effective when the HLEEA is established.
  - 2) Operating content and form of the HLEEA was discussed in the Executive Committee.
  - 3) Regarding the organization, the key members of the HLEEA have been collected. Some relating members will be added.
  - 4) Regarding the finance, the HLEEA will be operated based on the voluntary spirit. Implementation manners are under discussion.
  - 5) On 30th November 2012, a workshop was organized with the participation of relating agencies and business including VINACOMIN to discuss on the HLEEA strategy and action. These businesses will be core members of HLEEA for development of resources, funds and skill of education and propaganda.
  - 6) DONRE will propose provincial PPC to provide fund for operation of the HLEEA in the first period.
  - 7) DONRE will discuss with the DOET to implement the EE activities in schools.
- (4) Answers by Mr. Yoichi Iwai to the question on the social experiment of traffic safety in Bai Chay Road



- 1) Social experiment for improvement of traffic safety must be evaluated more thoroughly to identify all the difficulties and advantages before applying in practice.
- (5) Answer by Mr. Nguyen Manh Cuong, Director of the DONRE to the questions of Mr. Suzuki
- 1) CEM had positive direction for implementation of the project activities as well as ready for the implementation of the proposal.
  - 2) DOT was allocated by PPC to implement strictly the circular of the Ministry of Transport on the management of transport means at sea and in the Bay.
  - 3) Halong City People's Committee was assigned by QN PPC to implement relocation of the fishing village in the Bay to the mainland to reduce pollution in the Bay.
  - 4) DONRE was allocated by QN PPC to implement the eco-label pilot project for tourist boats in Halong Bay. DONRE was also assigned by the QN PPC to prepare the environmental protection plan in the Province including environmental protection in Halong Bay.
  - 5) Agreed with Mr. Dang Huy Hau for further testing to evaluate the effectiveness of social experiment on traffic safety.
  - 6) In summary, Quang Ninh determined and prepared to implement the proposals by the Project.
- (6) Comments by Mr. Ngo Van Hoi, Deputy Director of the Department of Education and Training
- 1) After three year, the Project obtained many results. It changed and improved the vision of key officers and technical staff in environmental protection in Halong Bay. The result of the Project is considered as an important push to promote the environmental protection.
  - 2) In order to the HLEEA operation to be sustainable, its fund should be setup and its activities should be independent with the state authorities. However, it should be supported by businesses and international organizations, including JICA.
  - 3) To strengthen the Environmental Education for Halong Bay, the Halong Bay world natural heritage should be an object of the environmental education.
  - 4) In the Phase 2 of the Project, Quang Ninh DOET would like JICA support to build links/connection the school of Quang Ninh Province with some schools in Japan. The teachers and students of the two parties could share experience and image of each other through the Internet.
- (7) Opinions of Mr. Nguyen Manh Ha, Deputy Director of the HBMD
- 1) HBMD recognized the efforts of the Project in implementation of activities during the last three years by very scientific way. It changed the perception of counterpart members. Draft Report met the desired requirement. However, the assessment of negative impacts including impact of fisheries and aquaculture activities on the environment in the Bay should be added.
  - 2) The community-based supervision mechanism should be added as a measure.
  - 3) Coordination among relevant sectors should be developed such as: (i) combination of coal industry with the tourism sector to develop the mining tour and resorts on the The Vang Island, and (ii) coordination between the coal industry and the aquaculture facilities in the Bay to provide seafood for the miners.
  - 4) Representative of Department of Agriculture and Rural Development should be added in the CEM/ Environmental Protection Committee in phase 2
  - 5) The tourist boats in the Bay should take the lead in the use of bio-fuel.
  - 6) Construction of a waste incinerator in the Bay should be considered. Because the waste in the Bay is floating waste and contaminated saltwater. The waste must be exposed to the sun for drying

before incinerating.

7) It is recommended to expand the tourism routes and improve the quality of tourism services.

(8) Comments by Mr. Do Ngoc Bich, Deputy Director of Quang Ninh Radio and Television

- 1) With the perspective of a journalist, the Project is a scientific project, from the vision, objectives and strategies are very scientific. Therefore, the Project documents should be kept in the Department of Science and Technology.
- 2) Thanks to JICA for their arrival to Halong Bay earlier than other organizations to study on Halong Bay. We have many similarities of Asia area. The "harmony" between economic development and environmental protection that you raised is very interesting. We understand that while mass tourism is for mass and low-income people, and eco-tourism is for the rich people. In future, many billionaires will come to Halong Bay.
- 3) Propaganda is a powerful solution in environmental education and promotion for the Project. During three years, Quang Ninh Radio and TV have been promoted the activities of the Project. We continue this work, because it is our mission.
- 4) Mr. Bich suggested as follows:
  - a) There should be a representative of propaganda agency in Environment Protection Committee in the phase 2 of the Project.
  - b) It is necessary to have a plan for mangrove forest protection in Halong Bay and its vicinity. It takes hundreds of years and is very difficult to grow the mangrove forest. Therefore, protection is very important.

(9) Comments by Mr. Ha Van Giang, Sub-dept. of Fishing and Fisheries Resources Protection, DARD

- 1) Mr. Giang fully agreed with the presentations by Mr. Hoang Danh Son, by Mr. Yoichi Iwai and Mr. Tomoo Aoki as well as opinions of the participants in the meeting.
- 2) Mr. Giang also agreed with the opinion of some participants that the leader of Department of Agriculture and Rural Development should be a member of Environmental Protection Committee in the phase 2 of the Project, since about 600 fishing boats with 3,000 fishermen operate in Halong Bay every day.
- 3) Control of fishing activities should be added in Output 3.
- 4) Environmental protection based on community model in Halong Bay should be proposed in the phase 2 of the Project.

(10) Additional comment by Mr. Yoichi Iwai

- 1) Quang Ninh Province has a resolution to relocate floating village to mainland which only mention on fishing and fishermen, however other activities are not mentioned. It should be clarified more.

**3. Conclusion by Mr. Dang Huy Hau**

- (1) PPC and People of Quang Ninh Province highly appreciate and express our deep gratitude to the government and people of Japan for supporting many programs and projects including the Project.
- (2) Mr. Hau recognized that the efforts of the industries, members of CEM, PMB and WGs as well as the local people during implementation process of the Project.
- (3) Mr. Hau recognized also that the success and results of the Project are (i) awareness of the people, business owners, and tourism operators have been improved through the implementation of the Project, (ii) some environmental monitoring data of the Output-2 will be utilized for environment management

of the province, (iii) some activities are put into practice such as garbage collection, eco-label development for tourist boats, and HLEEA.

(4) Mr. Hau affirmed that Halong Bay is a heritage not only of Vietnam but also of the World. Environmental protection in Halong Bay is the responsibility of Quang Ninh citizens firstly. However, we need the support from world community.

(5) Some contents should be invested in the future;

1) Content-1: Environmental Education

- a) Focusing on the awareness raising on environmental protection. All tourists who come to Halong Bay are raised their awareness on environmental protection.
- b) Focusing on the awareness raising on sustainable tourism development by shifting from brown growth to green growth.
- c) Moving from education to action. Halong citizens are pioneers in the protection of Halong Bay Heritage. Strengthening environmental education in all classes including governmental staff, people, and students in the school and tourists.

2) Content-2: Planning

Socio-economic development planning must be prepared in a sustainable manner. Priority of the economic structure will be restructured/shifted from current "Industry - Tourism Services - Agriculture" to "Tourism services-Industry-Agriculture" in 10 years.

3) Content-3: Sustainable tourism development

- a) Development of human resources. Implementation of administrative reform in the tourism sector,
- b) Increasing the quality and quantity of the tourism product,
- c) The coal industry contributes to the tourism development such as limitation of waste disposal and environmental rehabilitation in the waste dumping sites. Using water spraying system to limit coal dust in mining area. The oil-trees should be planted on the waste dump site. The visit to coal pits should be developed.
- d) Adjusting the tourism tour and routes to avoid overloading

4) Contents-4: Security and safety management in the Bay

- a) Stop the transfer of bulk goods including clinker, wood chips and schist from big ship to small ship in the Bay.
- b) 600 fishermen households living in the Bay will be relocated on the mainland. However, the production activities of fishermen in the Bay should be arranged with ensuring the environment, landscape and safety.
- c) It is necessary to have roadmap to implement the CEPC for Halong Bay including Quang Yen Town and Hoang Bo District. This is a national program.

5) Content-5: Implementation organization

- a) Resources
  - i) Quang Ninh Province would like Japan to continue to support Quang Ninh with human, knowledge, and financial resources to implement the Project in the next phase.
  - ii) Financial resources will be mobilized by many sources from state budget, business, people's contributions.
- b) Implementation

- i) An Environmental Protection Committee will be established and hosted by the People's Committee of Quang Ninh Province. In addition to the CEM members in the Project, leaders of the Department of Agriculture and Rural Development, VINACONMIN, QN Radio and Television will be members of the Committee. Each member will be assigned to specific tasks.
- c) Budget for HLEEA
  - i) For long time, the HLEEA will have own fund. The fund of the HLEEA will be contributed from related enterprises, individual, and organization. However, funding for activities of HLEEA will be supported by the People's Committee of Quang Ninh Province in the first period after the establishment.
  - ii) The HLEEA will be launched in the near future and work with the most diversity and effective model.

After conclusion by Mr. Dang Huy Hau on the content of the meeting, reward was announced. On behalf of QNPPC, Ms. Vu Mai Anh, Deputy Head of Completion and Reward Division of QNPPC announced the reward decision by Quang Ninh People's Committee for 5 units and 8 individual that have achievements in implementation of the Project.

The meeting ended at 17:30

**List of Attendants of the Seventh CEM meeting***[Vietnamese Side]*

- |                             |                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1. Mr. Dang Huy Hau         | Vice Chairman of QNPPC, Head of CEM                                                                                         |
| 2. Mr. Nguyen Manh Cuong    | Director of DONRE, Standing Deputy Head of CEM                                                                              |
| 3. Dr. Hoang Danh Son       | Deputy Director of DONRE, Deputy Head of CEM, Head of PMB                                                                   |
| 4. Mr. Mac Thanh Luan       | Deputy Director of Quang Ninh Financial Department                                                                          |
| 5. Mr. Nguyen Hai An        | Expert of Department of Construction                                                                                        |
| 6. Mr. Ha Van Giang         | Deputy Head of Exploitation and Fisheries Resources Protection, Department of Agriculture and Rural Development, CEM member |
| 7. Ms. Nguyen Thi Vinh      | Vice Chairwoman of Women Union of Quang Ninh, CEM member                                                                    |
| 8. Mr. Tran Tuan Anh        | Deputy Head of Youth Division, Provincial Youth Union of Quang Ninh, CEM member                                             |
| 9. Mr. Nguyen Manh Ha       | Deputy Head of Halong Bay Management Department                                                                             |
| 10. Mr. Dang Quoc Hung      | Deputy Head of DONRE, Halong City People's Committee                                                                        |
| 11. Mr. Trieu Van Hai       | Vice Chairman of People's Committee of Hoanh Bo District, CEM member                                                        |
| 12. Mr. Tran Van Hung       | Vice Chairman of People's Committee of Cam Pha Town, CEM member                                                             |
| 13. Mr. Hoang Viet Dung     | Director of Sub-Dept. for Environmental Protection, Quang Ninh DONRE, Deputy Head of PMB                                    |
| 14. Ms. Nguyen Thi Thu Thuy | Deputy Head of Sub-Dept. for Environmental Protection, DONRE, Secretary of the PMB                                          |
| 15. Ms. Nguyen Thu Huyen    | Head of Administrative and General Section, Sub-Dept. for Environmental Protection, DONRE, Member of the PMB                |
| 16. Ms. Phan Thi Hoang Hao  | Staff of Sub-Dept. for Environmental Protection, DONRE, Member of the PMB                                                   |
| 17. Ms. Do Thi Ni Tan       | Head of Monitoring and Analysis Section-2, EMAC, DONRE, Head of WG-1                                                        |
| 18. Mr. Nguyen The Thuc     | Deputy Head of Planning and Financial Division, DONRE, Head of WG-2                                                         |
| 19. Mr. Tran Van Thuan      | Deputy Head of Sea and Islands Sub-department, DONRE, Head of WG3                                                           |
| 20. Ms. Nguyen Thi Van      | Deputy Head of Tourism Promotion and Information Centre, DCST, member of WG-3                                               |
| 21. Mr. Pham Quang Vinh     | Deputy Head of Sub-Dept. of EP, Head of WG-4                                                                                |
| 22. Mr. Tran Nhu Long       | Deputy Chief of Secretariat of QNPPC                                                                                        |
| 23. Mr. Le Tien Manh        | Expert of QNPPC Office                                                                                                      |
| 24. Ms. Vu Mai Anh          | Deputy Head of Competition and Reward Division of PPC                                                                       |
| 25. Mr. Trinh Van Khanh     | Expert of Competition and Reward Division of PPC                                                                            |
| 26. Mr. Nguyen Tien Manh    | Deputy Head of PPC, Competition and Reward Division of PPC                                                                  |
| 27. Ms. Dang Tuyet Nhung    | Expert of Professional section, Competition and Reward Division of PPC                                                      |

*[Japanese Side]**JICA Vietnam Office*

- |                         |                       |
|-------------------------|-----------------------|
| 28. Mr. Fumihiko Okiura | Senior Representative |
| 29. Mr. Tadashi Suzuki  | Representative        |
| 30. Mr. Nguyen Vu Tiep  | Program Officer       |

***JICA Expert Team***

- |                             |                                            |
|-----------------------------|--------------------------------------------|
| 31. Mr. Yoichi Iwai         | Chief Advisor                              |
| 32. Mr. Tomoo Aoki          | Land Use Management Expert                 |
| 33. Mr. Tadashi Shoji       | Pollution Control Expert                   |
| 34. Mr. Kengo Naganuma      | Environment Monitoring and Analysis Expert |
| 35. Mr. Norihisa Hirata     | EE and PR Expert                           |
| 36. Mr. Minami Atsushi      | Coordinator                                |
| 37. Mr. Nguyen Thanh Phuong | Assistant                                  |
| 38. Ms. Bui Thi Cuong       | Interpreter of JICA Expert Team            |
| 39. Ms. Ha Thi Minh Phuong  | Secretary of JICA Expert Team              |
| 40. Ms. Tran Thi Hong       | Local expert of Environmental Education    |
| 41. Mr. Hoang Manh Cuong    | Translator                                 |
| 42. Mr. Nguyen Manh Linh    | Translator                                 |

***[Mass Media]***

- |                               |                                  |
|-------------------------------|----------------------------------|
| 43. Mr. Do Ngoc Bich          | Deputy Director of QN Television |
| 44. Ms. Pham Thu Trang        | Journalist of QN Newspaper       |
| 45. Ms. Minh Hien             | Journalist of QN Television      |
| 46. Mr. Pham Hung             | Technician of QN Television      |
| 47. Ms. Nguyen Thi Ngoc Huyen | Information Center of QN PPC     |

**THE SEVENTH CEM MEETING OF  
THE PROJECT FOR ENVIRONMENTAL PROTECTION IN HALONG BAY  
Agenda (version 7, 12 Dec. 2012)**

**1. Date and Venue**

- Date: from 14:00, ½ day, 13<sup>th</sup> December (Thu)
- Venue: Halong Plaza Hotel

**2. Attendants**

- Mr. Dang Huy Hau, vice chairman of QN PPC (Chairman of CEM Meeting)
- Members of CEM; PMB, WGs and JICA Expert Team
- Representatives of JICA Vietnam Office, JICA Expert in MONRE
- Representatives of MONRE, VEA
- Expert of Quang Ninh PPC office in charge of the project
- Mr. Luong Y Duoc, Former Deputy Director of QN DONRE
- Quang Ninh television, Quang Ninh Newspaper, Information Centre - Quang Ninh PPC Office.
- Heads of various divisions, Sub-department of Sea and Islands, Sub-Department of Environment Protection, Centres affiliating to DONRE.
- Emulation and Award Board – Department of Home Affairs

**3. Program**

Contents	Time	Presentation
Reception	13:30-14:00	PMB and JET
1. Opening Statement	14:00-14:10	Mr. Dang Huy Hau (Vice Chairman of QN PPC)
2. Opening Remarks	14:10-14:20	Mr. Fumihiko Okiura (Senior Representative of JICA VN Office)
3. Report on Project Implementation Results and Future Plan	14:20-14:50	Dr. Hoang Danh Son (Chairman of PMB)
4. Presentation of the Proposal of Environmental Protection for Sustainable Tourism Development Strategy and summary of PCR	14:50-15:20	Mr. Yoichi Iwai (Chief Advisor of JET)
Coffee Break	15:20-15:40	
5. Discussion (Q and A)	15:40-16:40	Chairperson: Mr. Dang Huy Hau (Vice Chairman of QN PPC) All participants
6 Awarding Ceremony	16:40 – 17:00	Mr. Dang Huy Hau (Vice Chairman of QN PPC)
9. Closing Remarks	17:00-17:30	Mr. Dang Huy Hau (Vice Chairman of QN PPC)

End





**添付資料-3**  
**総括セミナーの議事録**

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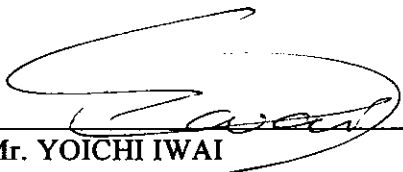
**MINUTES OF MEETING  
ON  
FINAL SEMINAR  
FOR  
THE PROJECT FOR ENVIRONMENTAL PROTECTION  
IN HALONG BAY**

14th December 2012



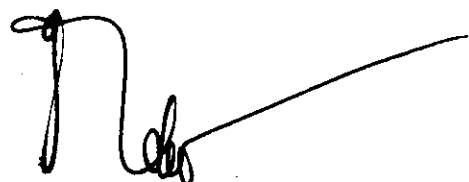
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Mr. FUMIHIKO OKIURA  
Senior Representative  
JICA Vietnam Office




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Mr. YOICHI IWAI  
Chief Advisor  
JICA Expert Team  
The Project for Environmental  
Protection in Halong Bay



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Mr. DANG HUY HAU  
Head of CEM  
Vice Chairman of Quang Ninh Provincial  
People's Committee  
The Socialist Republic of Vietnam



In accordance with the Inception Report (Ic/R) for the Project for Environmental Protection in Halong Bay (the Project) in September 2010, the Steering Committee for Environmental Management (CEM) in cooperation with the Japan International Cooperation Agency (JICA) and the JICA Expert Team (JET) organized the Final Seminar (the Meeting) on 14th December 2012 in the Conference Hall of Novotel Hotel in Bai Chay Ward, Halong City. The Meeting was chaired by Mr. Dang Huy Hau, Vice Chairman of Quang Ninh PPC, Head of CEM. After the opening speech and opening remark made by Mr. Dang Huy Hau, Vice Chairman of PPC and Mr. Fumihiko Okiura, Senior Representative of JICA Vietnam Office, respectively, presentations were made by representative of WGs, CEM and JET.

This is a discussion record describing comments and opinions of the participants in the Meeting. The list of attendants and the agenda of the meeting are enclosed in Attachment-1 and Attachment-2, respectively.

## **1. Presentations by WGs**

The following presentations were made:

- (1) Presentation on the Integrated Environmental Monitoring Implementation Plan and Pollution Source Control and project activities under WG-1 by Ms. Do Thi Ni Tan, Head of WG-1.
- (2) Presentation of the Coastal Environment Protection Corridor for Halong Bay and project activities under WG-2 by Mr. Nguyen The Thuc, Head of WG-2.
- (3) Presentation of the Sustainable Tourism Development Strategy and project activities under WG-3 by Mr. Tran Van Thuan, Head of WG-3.
- (4) Presentation of the Halong Environmental Education Association (HLEEA) and project activities under WG-4 by Mr. Pham Quang Vinh, Head of WG-4.

## **2. Comments by participants for presentation of WGs**

- (1) Comments and suggestions of Mr. Dang Huy Hau, Vice Chairman of the Provincial People's Committee, Head of CEM
  - 1) Contents of WG's presentations are very comprehensive. The study results are useful.
  - 2) The following contents should be discussed further:
    - a) Approaches and impression about the Project and issues related to jurisdiction of the participants of the Project
    - b) The proposal, initiatives and direction for future.
- (2) Comments by Mr. Ando Katsuhiko, Tourism Development Senior Expert of JICA in MCST
  - 1) Mr. Ando Katsuhiko hopes that the proposed strategies and measures for sustainable tourism development in Halong area will be implemented in future. 22 tourism resources should be interconnected and connected to other tours in the province and in the region to attract more tourists. However, impact on the environment of Halong Bay will be serious more if number of tourists visiting to Halong Bay increases more.
  - 2) It is necessary to have better coordination among several sectors and levels for implementation of sustainable tourism development strategy.

- 3) The core contents of the sustainable tourism development strategy are (i) the best management of tourism resources, (ii) development of tourism products, and (iii) human resource development.
  - a) Regarding development of tourism products, Mr. Katsuhiko shared the experience of Japan in development of a sustainable tourism site by using a fishing village in Ogasawara islands. The important points are that the tourism guide must explain to visitor about importance and value of natural resources and the environment in the islands. This experience can be applied in Vietnam, especially in the fishing village in the Bay.
  - b) Regarding the human resources, the guides must have knowledge and understanding about the significance and features of tourism sites.

(3) Opinions by Mr. Doan Manh Luong, Director of Ha Long Bien Ngoc Co., Ltd, Head of Halong Tourist Boat Association.

Mr. Luong participated actively in the activities of the Project. He appreciated the activities of the Project as follows:

- 1) Development of Eco-label for tourist boat is very important. It changed the perception of staff and crews on environmental protection for Halong Bay.
- 2) Secchi disk is a tool to determine the transparence of water. The change of bay's water quality is identified everyday through using the Secchi disk.
- 3) It is necessary for establishment of HLEEA to educate the people including the tourist guides on conscious of environmental protection. If the tourist guides have the good conscious on environmental protection, they will give good influence to the tourists.
- 4) Thanks to JET for the specific and useful studies. Thanks to Mr. Dang Huy Hau for quick and strict direction to implement the Project.
- 5) It is recommended that DONRE should advise the QNPPC and cooperate with the Halong Tourist Boat Association to propose the new and more suitable approach for environmental education and protection on the tourist boats.

(4) Comments by Mr. Dang Huy Hau

- 1) Quang Ninh has huge number of the tourist boats. However, the capacity and consciousness of boat staff and crews are still limited and as result, making the accidents in Halong Bay.
- 2) Mr. Hau understood that it is very difficult to change habits. However, since tourism enterprises benefit directly from Halong Bay, they should have the responsibility to protect the environment of Halong Bay.

(5) Comments by Professor Nguyen Cao Huan, Hanoi National University of Science

- 1) Presentations of WGs are very scientific and reasonable towards the environmental protection.
- 2) However, study area is not enough. The core zone of the Bay and coal mine zones that have impacted strongly on environment of Halong Bay were not mentioned in the reports. Forecasting environmental impact and the following contents should be added in the report of WGs.
  - a) For WG-1report, location of waste dumping site and spatial map of area maybe impacted by

waste dumping site should be added in the report of WG-1 for environmental management tool.

- b) For WG-3, the report has comprehensive content, however, do not have the breakthrough point including weak points and strong points. WG-3 must find the answer for the question: Why the tourists stay very few days in Halong. Capacity level of tourism services staff and operators is low. Besides, the adventure tourism should be mentioned in the report. It is necessary to have a policy prioritizing the sustainable tourism development.
- c) For WG- 4, a specific plan for developing the fund of HLEEA should be prepared.

**3. Presentation by Mr. Nguyen Manh Cuong, Director of DONRE, Deputy Head of CEM**

Mr. Nguyen Manh Cuong, presented the Plans and Activities for Environmental Management of Halong World Heritage Area in the next coming years.

**4. Presentation by Mr. Yoichi Iwai, Senior Advisor, the Team Leader of JET**

Mr. Yoichi Iwai presented the draft proposal of Environmental Protection for Sustainable Tourism Development Strategy in Halong Bay.

**5. Comments by the participants for presentation of Mr. Nguyen Manh Cuong and Mr. Yoichi Iwai**

**(1) Comments by Mr. Dinh Quang Hai, Vice Chairman of Quang Ninh Union of Scientific and Technical Association.**

- 1) The Project is implemented with the participation of many members from departments, districts, town and cities as well as local people under the guidance and assistance by JET.
- 2) Documents of the Project are not only for the environment sector, but also are valuable scientific references for relevant agencies.
- 3) Communication should be strengthened, especially communication of main pollution sources and encouragement of green and clean consumption and using material friendly with environment.
- 4) An environmental monitoring point in areas bordering Halong Bay and Cat Ba (Haiphong) should be added.
- 5) Waste collection in the Bay should be monitored and recorded through the receiving waste record.
- 6) It is recommended that use of industrial food to replace the use of trash fish for cultured fish by cages in Halong Bay.
- 7) Solid waste at the bottom of the Bay should be studied.
- 8) For the sustainable tourism development, a branch of Tourism Association should be formed in the fishing village in the Bay. These members should be visited to expand awareness and find out the value of place where they live.

**(2) Opinions by Ms. Nguyen Thi Bao, Chairman of Quang Ninh Tourism Association**

Ms. Nguyen Thi Bao agreed with the above comments by participants. Ms. Bao commented further as

follows:

- 1) Since environment protection of Halong Bay is to ensure the sustainable tourism development, environmental protection is related to the tourism industry.
  - 2) In recent years, Quang Ninh tourism has been developed rapidly. Infrastructure of tourism sector is better than that in other provinces. However, cooperation among tourism units is not well. The service quality of tourism is still poor. Planning is not good, poor tourism products, lack of other services such as car park, shop location, and public toilets.
  - 3) In addition to propagation and education, the sanction must be implemented strictly.
  - 4) Ms. Bao will be a member of the HLEEA.
- (3) Opinions by Mr. Hoang Quoc Thai, Deputy Director, Department of Culture, Sport and Tourism (DCST), CEM Member
- 1) Mr. Hoang Quoc Thai agreed on contents of report on results of the Project.
  - 2) DCST understood that the tourism is developed based on the good environment with contribution of many industries and people.
  - 3) Environmental education must be applied to the entire population.
  - 4) After the end of the Project, the relevant agencies should advise the PPC to issue specific documents to implement the proposals by the Project.
- (4) Opinions by Mr. Pham Ngo Chu, Deputy General Director, Quang Ninh Construction and Cement JSC.
- 1) Mr. Pham Ngo Chu's company has manufacturing facility which is located in Cai Lan Industrial Zone. Operation of this facility affects the environment of Halong Bay.
  - 2) Wastewater treatment system for the facility was built. However, it may be outdated now. It will be improved in near future.
  - 3) It is necessary to strengthen the environmental education. On the other, sanction and fine mechanism should be implemented. The fine collection activity should be allocated to the volunteers.
- (5) Opinions by Mr. Hoang Quang Hai, Vice Chairman of Halong City PC
- 1) Thanks to JICA for selection of Halong Bay and Halong City to implement the Project.
  - 2) Mr. Hai confirmed the success of the Project after three years of implementation. The Project assessed right the current status of environmental issues as well as tourism development of locality.
  - 3) Activities of the Project impacted positively to the locality. At present, the PPC recognize the importance of environment, and environmental protection was included in the socio-economic

development plan of the Province.

- 4) Halong City is also trying to improve the environment and develop tourism such as:
  - a) Proposing transfer a part of the tourist port to Hong Gai side to reduce tourist density in Bai Chay area and to extend length of stay of tourist,
  - b) Implementing relocation of 3000 people who are living in the Bay to mainland. However, the cultural fishing villages still remain and will be developed in the Bay. The fishing activities in the Bay will be rearrangement to ensure landscape, environment and safety,
  - c) Strengthening the environmental rehabilitation at the coal waste dumping sites and relocation of Nam Cau Trang Coal Processing to outside central area of Halong City as well as management of traffic congestion.

(6) Opinion by Professor Nguyen Cao Huan, Hanoi National University of Science

- 1) Content of two reports are quite clear. The proposal is feasible. Mr. Huan believed that if the sectors in Quang Ninh make decision, the phase 2 of the Project will be surely successful.
- 2) These reports mentioned two key points including (i) breakthrough space is Halong City and (ii) breakthrough point is coal industry.
- 3) It is proposed that some solid waste detectors should be supported by the Project to identify solid waste and the waste density in the bottom of the Bay.

(7) Opinion by Mr. Tadashi Suzuki, Representative of JICA Vietnam Office

- 1) Mr. Suzuki appreciated the efforts of the involvement of members and agencies in the implementation of the Project.
- 2) Human resource is important. QNPPC should promote the initiations and prepare fully to implement these initiations. JICA is always side by side with QNPPC to implement ideas and plans.

(8) Opinion by Mr. Yoichi Iwai

- 1) Thanks to the members for participation in the Project, thanks to QNPPC for supporting and cooperation during implementation of the Project.
- 2) Eco-tourism should be applied in Quang Ninh. Human resource for tourism service should be focused to develop including tourism guides. They must understand clearly the tourism sites and have tourism skills.
- 3) Typical tourism products of Quang Ninh should be developed. Some tourism sites should be managed by the local people. In the bad weather days, while tourists cannot visit to the Bay, they can travel to other sites on mainland or join the other cultural activities.
- 4) Agreed to investigate the seabed and use industrial food to replace trash fish for fish culture aiming reduction of solid waste.



- 5) The tourism villages should be developed from the fishing villages in the Bay.
- (9) Review by Mr. Fumihico Okiura, Senior Representative of JICA Vietnam Office
  - 1) Currently, we are at an important time when the economic development is associated with environmental protection. Quang Ninh is having the chance to implement the green growth strategy. Human factor is most important to ensure the success of the green growth strategy.
  - 2) Thanks for appreciation for Japan and JICA. JICA hopes that results of the Project could be maintained by Quang Ninh Province. Besides, the results of the Project activities should be promoted and broadcasted in the world. JICA is ready to support your activities in coming time.

#### **6. Conclusion by Mr. Dang Huy Hau**

Mr. Dang Huy Hau received the comments of the participants in the meeting and had some following conclusions:

##### **(1) Project Assessment**

- 1) The Project identified the environmental and tourism development issues in Halong area to have the specific orientations in future.
- 2) Five contents mentioned in the Project are important tasks must be implemented in coming time.
- 3) Outputs of the Project in the phase 1 will be inputs for several plans that are formed by QNPPC such as master plan on socio-economic development of Halong City and plan on tourism development of the Province.
- 4) Mr. Hau appreciated the environmental education activities to raise the awareness of local people on environmental protection.
- 5) He also appreciated the collaboration among related sectors to implement the Project.
- 6) He confirmed that members who participated in the Project received the precious training on detailed, clear and responsible working method from Japanese experts during implementation of the Project.

##### **(2) Action plan in the coming period**

- 1) Human resources development
- 2) Administrative reform such as construction of e-government and public administrative center
- 3) Attracting foreign investment with consideration of selecting technology
- 4) Halong area and Halong Bay are selected as centered area for development, focusing on sustainable tourism development. Currently, Halong City is also developing the image of Halong people and striving to preserve the landscape, geology and environment.
- 5) Development of tourism products and new tours including cultural fishing village, ecotourism, hamlet tourism and mining tourism as well as construction of cultural, sports activities and cuisine culture of Quang Ninh
- 6) Development of branding for the typical products
- 7) To ensure the safety of visitors and security in tourism sites
- 8) Connection in the tourism enterprises and close combination in the parts of one tour

- 9) Tourism guide training, reviewing and improving the quality of training in the colleges with strengthening management and use of labor in the tourism enterprises.
  - 10) Strict handling of violations in tourism operation
- (3) Mr. Hau emphasized that results of the Project are the beginning of following projects/programs. Quang Ninh committed to implement the proposals by the Project.

The seminar ended at 17:30.

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**List of Attendants of the Final Seminar of the Project***[Vietnamese Side]*

1. Mr. Dang Huy Hau Vice Chairman of QNPPC, Head of CEM
2. Mr. Nguyen Manh Cuong Director of DONRE, Standing Deputy Head of CEM
3. Mr. Mac Thanh Luan Deputy Director of Quang Ninh Financial Department
4. Mr. Nguyen Hoang Ha Expert of Department of Construction
5. Mr. Hoang Quoc Thai Deputy Director of Quang Ninh DCST
6. Mr. Ha Van Giang Deputy Head of Exploitation and Fisheries Resources Protection, Department of Agriculture and Rural Development, CEM member
7. Ms. Nguyen Thi Vinh Vice Chairwoman of Women Union of Quang Ninh, CEM member
8. Mr. Nguyen Manh Ha Deputy Head of Halong Bay Management Department
9. Mr. Hoang Quang Hai Vice Chairman of Halong City PPC
10. Mr. Tran Van Hung Vice Chairman of People's Committee of Cam Pha Town, CEM member
11. Mr. Hoang Viet Dung Director of Sub-Dept. for Environmental Protection, Quang Ninh DONRE, Deputy Head of PMB
12. Ms. Nguyen Thi Thu Thuy Deputy Head of Sub-Dept. for Environmental Protection, DONRE, Secretary of the PMB
13. Ms. Nguyen Thu Huyen Head of Administrative and General Section, Sub-Dept. for Environmental Protection, DONRE, PMB member
14. Ms. Phan Thi Hoang Hao Staff of Sub-Dept. for Environmental Protection, DONRE, PMB member
15. Ms. Do Thi Ni Tan Head of Monitoring and Analysis Section-2, EMAC, DONRE, Head of WG-1
16. Mr. Nguyen The Thuc Deputy Head of Planning and Financial Division, DONRE, Head of WG-2
17. Mr. Tran Van Thuan Deputy Head of Sea and Islands Sub-department, DONRE, Head of WG-3
18. Mr. Pham Quang Vinh Deputy Head of Sub-Dept. for Environmental Protection, DONRE, Head of WG-4
19. Ms. Nguyen Thi Thu Trang Deputy Head of Foreign Economic Relation Division, DPI, WG-3 member
20. Mr. Pham Tuan Cuong Deputy Head of Quang Yen Town DONRE
21. Mr. Vu Nam Phong Director of EMAC, DONRE
22. Mr. Pham Van Cung Head of Environmental Control Section, Sub-dept. of EP, DONRE
23. Ms. Nguyen Thi Huong Accountant of PMB
24. Ms. Dang Thi Hai Yen Head of Appraisal –License Section, Sub-dept. of EP, WG-4 member
25. Ms. Dao Thi Hau Expert, Water Resources and Hydro Meteorology Division of DONRE
26. Mr. Pham Xuan Thanh Cadastral Technical Center, DONRE
27. Mr. Do Xuan Que Sub-Dept. of Sea and Islands, DONRE
28. Mr. Dang The Manh Sub-Dept. of Sea and Islands, DONRE
29. Ms. Vu Hong Phuong Deputy Director of EMAC
30. Mr. Bui Duc Quang Deputy Director of Informatics Technology Center, DONRE
31. Mr. Bui Minh Tuan Land use Right Registration Office, DONRE
32. Mr. Tran Van Ngoan Director of Sub-Dept. of Sea and Islands, DONRE
33. Mr. Ngo Manh Dat Sub-Dept. of EP, DONRE
34. Mr. Nguyen Van Manh Land use Right Registration Office, DONRE
35. Ms. Tran Thi Minh Thu Sub-Dept. of EP, DONRE

- |                             |                                                                           |
|-----------------------------|---------------------------------------------------------------------------|
| 36. Ms. Vu Thi Tuyet        | Sub-Dept. of EP, DONRE                                                    |
| 37. Ms. Nguyen Thi Hang     | Expert, Sub-Dept. of EP, DONRE                                            |
| 38. Ms. Nguyen Thi Thao     | Expert of Uong Bi Town DONRE                                              |
| 39. Mr. Doan Van Khanh      | Head of Ba Che DONRE                                                      |
| 40. Ms. Vu Thi Hoi          | Deputy Head of Van Don DONRE                                              |
| 41. Mr. Tran Tien Dung      | Vice Chairman of Quang Yen Town PC                                        |
| 42. Mr. Nguyen Xuan Truong  | Vice Chairman of Bai Chay Ward PC, Halong City                            |
| 43. Mr. Nguyen Anh Hoang    | Officer of Ha Khanh Ward PC, Halong City                                  |
| 44. Mr. Hoang Anh Tuan      | Vice Chairman of Hon Gai Ward PC, Halong City                             |
| 45. Mr. Bui Huy Luyen       | Chairman of Ha Phong Ward PC, Halong City                                 |
| 46. Mr. Le Tien Manh        | Expert of QNPPC Office                                                    |
| 47. Mr. Tran Nhu Long       | Deputy Chief of Secretariat of QNPPC                                      |
| 48. Mr. Hoang Vinh Khuyen   | Secretary of QNPPC                                                        |
| 49. Mr. Ha The Nam          | Deputy Head of Department of Science and Technology                       |
| 50. Mr. Nguyen Tien Hung    | Deputy of Medical Department                                              |
| 51. Mr. Do Ngoc Nam         | Deputy Director of Information and Communication Department               |
| 52. Mr. Dang Dinh Nham      | Head of Technical Division, DARD                                          |
| 53. Mr. Nguyen Thanh Nguyen | Deputy Director of Bai Tu Long National Park                              |
| 54. Ms. Nguyen Thi Thao     | Tourism Resources Development Division, DCST                              |
| 55. Mr. Nguyen Trung Kien   | Investment Promotion Agency                                               |
| 56. Dr. Nguyen Cao Huan     | Professor of Hanoi National University of Science                         |
| 57. Ms. Cao Thi Thu Trang   | Marine Chemical Section of IMER                                           |
| 58. Mr. Truong Nam Thang    | EU Project Officer                                                        |
| 59. Mr. Nguyen Van Mien     | Head of Technical Division, Nui Beo Coal Company                          |
| 60. Mr. Nguyen Van Long     | Head of KTM Division, Hon Gai Coal Company                                |
| 61. Mr. Bui Thanh Son       | Expert of Environment Division, Thang Long Cement Company                 |
| 62. Mr. Duong Hong Hai      | Deputy General Director of Cam Pha Thermal Power Plant                    |
| 63. Mr. Pham Ngo Chu        | Deputy General Director of Cement and Construction JSC of Quang Ninh      |
| 64. Ms. Nguyen Thi Bao      | Chairman of Quang Ninh Tourism Association                                |
| 65. Mr. Doan Manh Luong     | Head of Branch of Halong Tourism Boat Association                         |
| 66. Mr. Do Ngoc Hai         | Labor Federation of Quang Ninh                                            |
| 67. Mr. Dinh Quang Hai      | Vice chairman of Quang Ninh Union of Scientific and Technical Association |
| 68. Mr. Vu Ngoc Thanh       | Second Secretary of Youth Union of Medical College of Quang Ninh          |
| 69. Mr. Nguyen Duc Tinh     | Director of Industrial University of Quang Ninh                           |
| 70. Ms. Nguyen Thi Thanh    | Expert of DONRE of Hai Duong Province                                     |
| 71. Mr. Nguyen Quoc Tuan    | Expert of DONRE of Bà Rịa-Vung Tau Province                               |

*[Japanese Side]*

*JICA in Hanoi*

- |                         |                       |
|-------------------------|-----------------------|
| 72. Mr. Fumihiko Okiura | Senior Representative |
| 73. Mr. Tadashi Suzuki  | Representative        |
| 74. Mr. Nguyen Vu Tiep  | Program Officer       |
| 75. Mr. Ando Katsushiro | JICA Expert in MCST   |

*JICA Expert Team*

- |     |                         |                                            |
|-----|-------------------------|--------------------------------------------|
| 76. | Mr. Yoichi Iwai         | Chief Advisor                              |
| 77. | Mr. Tomoo Aoki          | Land Use Management Expert                 |
| 78. | Mr. Tadashi Shoji       | Pollution Control Expert                   |
| 79. | Mr. Kengo Naganuma      | Environment Monitoring and Analysis Expert |
| 80. | Mr. Norihisa Hirata     | EE and PR Expert                           |
| 81. | Mr. Minami Atsushi      | Coordinator                                |
| 82. | Mr. Nguyen Thanh Phuong | Assistant                                  |
| 83. | Ms. Bui Thi Cuong       | Interpreter of JICA Expert Team            |
| 84. | Ms. Ha Thi Minh Phuong  | Secretary of JICA Expert Team              |
| 85. | Ms. Tran Thi Hong       | Local expert of Environmental Education    |
| 86. | Mr. Hoang Manh Cuong    | Translator                                 |
| 87. | Mr. Nguyen Manh Linh    | Translator                                 |

*[Mass Media]*

- |     |                        |                             |
|-----|------------------------|-----------------------------|
| 88. | Mr. Lai Huu Viet       | Journalist of QN Newspaper  |
| 89. | Ms. Nguyen Minh Nguyet | Journalist of QN Television |
| 90. | Mr. Ly Van Cuong       | Technician of QN Television |

**THE FINAL SEMINAR OF  
THE PROJECT FOR ENVIRONMENTAL PROTECTION IN HALONG BAY  
Program (version 7, 13 Dec.2012)**

**1. Objectives**

The objectives of the Final Seminar are;

- 1) To present and disseminate the outcomes of the Project,
- 2) To present the Proposal of Environmental Protection for Sustainable Tourism Strategy, and
- 3) To discuss future plans and activities on environment management in Halong Bay

**2. Attendants**

- 1) Mr. Dang Huy Hau, vice chairman of the PPC (Chairman of the seminar)
- 2) Representatives of organizations of QN PPC concerned
- 3) Representatives of PCs of 14 District/City/towns in Quang Ninh Province
- 4) Representatives of YU and WU
- 5) Representatives of INDEVCO and URENCO
- 6) Representatives of QN Tourism Ass and QN Tourist Boat Ass
- 7) Representatives of VEA/ MONRE
- 8) Representatives of other DONREs such as HNI, Hai Phong, TT-Hue, Ho Chi Minh City, Ba Ria - Vung Tau, Hai Duong, Bac Ninh, Bac Giang, Thai Nguyen, etc.
- 9) Representatives of VINACOMIN in Quang Ninh
- 10) Representatives of Construction and Cement Company
- 11) Representatives of Quang Ninh Power Company
- 12) Representatives of Quang Ninh Provincial Labor Federation
- 13) Representatives of Quang Ninh National Fatherland Front
- 14) Representatives of Quang Ninh Medical College
- 15) Representatives of Quang Ninh College of Culture, Art and Tourism
- 16) Representatives of Quang Ninh University of Industry
- 17) Representatives of JICA VN Office and JICA Experts in MONRE (Mr. Tomisaka) and MCST (Mr. Ando)
- 18) Representatives of UNESCO, the Institute of Marine Env and Research in Hai Phong, VAST/IET Vietnam Ass. for Conservation of Natural Env (VACNE: Dr. Nguyen Ngoc Sinh)
- 19) Concerned donor agencies and projects such as VPEG (CIDA), AFD/FFEM, Water Env't Pjt (JICA)
- 20) Scientists such as HNI Science U (Dr. Mai), QN Industry U (Dr. Kainh), HNI NU (Dr. Thang: CRES)
- 21) Members of CEM, PMB, and C/P of WGs
- 22) Expert of QN PPC office in charge of the project
- 23) Representatives of Volunteer groups
- 24) JICA Expert Team
- 25) Mass Media such as QN television, QN Newspaper, Information Centre-QN PPC office

**3. Date and Venue**

- (1) Date: 14 (Fri), December, 2012, Time: 08:00 -16:30
- (2) Venue: NOVOTEL <simultaneous interpretation: Vietnamese =English>

#### 4. Program of the Final Seminar

##### Program of the Final Seminar

Contents	Presentation	Time	Remarks
Reception	-	08:00-08:30	PMB, WGs, and JET
1. Opening Statement	Mr. Dang Huy Hau (Vice Chairman of QN PPC)	08:30-08:35	Proceeding by Mr. Hoang Viet Dung (Deputy Head of PMB)
2. Opening Remarks	Mr. Fumihiko Okiura (Senior Representative of JICA VN Office)	08:35-08:45	
3. Presentation of WG-1 (IEMIP and PSC)	Ms. Do Thi Ni Tan (Head of WG-1)	08:45-09:15	a) Summary of outputs of each WG b) Proposals of each WG
4. Presentation of WG-2 (CEPC)	Mr. Nguyen The Thuc (Head of WG-2)	09:15-09:45	ditto
Coffee Break		9:45-10:15	
5. Presentation of WG-3 (STD strategy)	Mr. Tran Van Thuan (Head of WG-3)	10:15-10:35	ditto
6. Presentation of WG-4 (HLEEA)	Mr. Pham Quang Vinh (Head of WG-4)	10:35-11:05	
7. Discussions		11:05-12:00	
Luncheon		12:00-14:00	
8. Presentation of the Proposal of Environmental Protection for Sustainable Tourism Development Strategy	Mr. Yoichi Iwai (Chief Advisor of JET)	14:00-14:30	a) Key points of the Proposal b) Actions forwards
8. Presentation of the Plans and Activities for Env'tal Management of Halong World Heritage Area	Mr. Nguyen Manh Cuong, (Director of DONRE)	14:30-14:50	a) Current activities and future plans b) Renovation figures after restructuring of HBMD
Coffee Break		14:50-15:10	
Discussions		15:10-16:10	
9. Closing Remarks	Mr. Dang Huy Hau (Vice Chairman of QN PPC)	16:10-16:30	





**添付資料-4**  
**収集資料リスト**

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### List of Collected Information and Materials

No.	Name of document	No. of pages	Date received	Receive from
1	Regulations on Environmental Protection of Quang Ninh Province	26	Apr.14.'10	DONRE
2	Decision No. 2788/QD-UBND QN PPC Decision on Functions, Tasks , Authorities and Organization Structure of Quang Ninh Department of Natural Resources and Environment.	7	Apr.14.'10	DONRE
3	Regulations on Organization and Operation of CEM, Operation Committee and Counterpart Teams of the Technical Corporation Project for “Environmental Protection in Halong Bay”	10	Apr.15.'10	DONRE
4	Decree No. 63/2008/ND-CP on Environmental Fees for Mineral Exploitation	6	Apr.15.'10	DONRE
5	Decree No. 137/2005/ND-CP on Environmental Fees for Mineral Exploitation	4	Apr.15.'10	DONRE
6	Decision No. 1026/QD-UBND QN PPC Decision on Establishment of CEM	3	Apr.14.'10	DONRE
7	Decision No. 1027/QD-UBND QN PPC Decision on Establishment of Project Operation Committee	3	Apr.14.'10	DONRE
8	Decision No. 1028/QD-UBND QN PPC Decision on Establishment of Project Counterpart Team	4	Apr.14.'10	DONRE
9	Decision No. 1029/QD- UBND PPC Decision on Issuing Operation Regulations for the steering committee for environmental management for the technical cooperation project for “Environmental protection in Halong Bay”	2	Apr.14.'10	DONRE
10	Environmental Inspection Manual	143	Apr.26.'10	DONRE
11	Several actual experiences of Environment Inspection Activities	28	Apr.26.'10	DONRE
12	Report on Situations of Environmental Protection Activities for the Halong Bay - Natural World Heritage	5	Apr.15.'10	HBMD
13	Record of Inspection to the VIETMINDO Company	8	Apr.26.'10	DONRE
14	Record of Inspection to the New Century Chemical Fiber Company		Apr.26.'10	DONRE
15	Yearly Operation Program on Environmental Inspection and Checking of 2010	3	Apr.26.'10	DONRE
16	Decision No.1872 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Tuan Chau Quarter, Halong City.	8	Apr.21.'10	Halong City PC
17	Decision No.1873 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Viet Hung Commune, Halong City.	8	Apr.21.'10	Halong City PC
18	Decision No.1883 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Ha Khanh Quarter, Halong City.	9	Apr.21.'10	Halong City PC
19	Decision No.1884 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Yet Kieu Quarter, Halong City.	9	Apr.21.'10	Halong City PC
20	Decision No.1885 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Bai Chay Quarter, Halong City.	8	Apr.21.'10	Halong City PC
21	Decision No.1886 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Bach Dang Quarter, Halong City.	8	Apr.21.'10	Halong City PC
22	Decision No.1887 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Ha Lam Quarter, Halong City.	8	Apr.21.'10	Halong City PC
23	Decision No.1888 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Hong Ha Quarter, Halong City.	8	Apr.21.'10	Halong City PC
24	Decision No.1889 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Cao Xanh Quarter, Halong City.	7	Apr.21.'10	Halong City PC
25	Decision No.1890 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Hung Thang Quarter, Halong City.	8	Apr.21.'10	Halong City PC
26	Decision No.1947 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Ha Phong Quarter, Halong City.	9	Apr.21.'10	Halong City PC

No.	Name of document	No. of pages	Date received	Receive from
27	Decision No.1950 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Hong Gai Quarter, Halong City.	8	Apr.21.'10	Halong City PC
28	Decision No.1951 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Ha Tu Quarter, Halong City.	9	Apr.21.'10	Halong City PC
29	Decision No. 1952 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Tran Hung Dao Quarter, Halong City.	6	Apr.21.'10	Halong City PC
30	Decision No.1953 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Cao Thang Quarter, Halong City.	8	Apr.21.'10	Halong City PC
31	Decision No. 1954 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Dai Yen Commune, Halong City.	8	Apr.21.'10	Halong City PC
32	Decision No.1955 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Ha Khau Quarter, Halong City.	7	Apr.21.'10	Halong City PC
33	Decision No.1956 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Gieng Day Quarter, Halong City.	8	Apr.21.'10	Halong City PC
34	Decision No.1957 on Approval for Detailed Land Use Planning up to 2010 and Detailed Land Use Planning of period from 2006 – 2010 of the Ha Trung Quarter, Halong City.	8	Apr.21.'10	Halong City PC
35	Decision No.263 on Approval for Land Use Planning for the last term, from 2007 to 2010 in Halong City	6	Apr.21.'10	Halong City PC
36	Decision No.214 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Mineral Resources Division, DONRE	2	Jun.14.'10	DONRE
37	Decision No.222 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Inspection Dept. of DONRE	3	Jun.14.'10	DONRE
38	Decision No.239 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Planning and Finance division under Dept. of DONRE	4	Jun.14.'10	DONRE
39	Decision No.238 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Surveying and Mapping Dept. of DONRE	2	Jun.14.'10	DONRE
40	Decision No.244 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Land Registration Dept. of DONRE	3	Jun.14.'10	DONRE
41	Decision No.208 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Administration Division of DONRE	3	Jun.14.'10	DONRE
42	Decision No.186 from QN DONRE Director on Functions, Tasks, Authorities of the Water Resources – Meteorology Dept.	4	Jun.14.'10	DONRE
43	Decision No.175 from QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Maritime and Island Dept.	4	Jun.14.'10	DONRE
44	Decision No.211 Stimulating on Function, tasks of professional sections of Sub-Dept. of Environmental protection of QN	4		DONRE
45	Decision No.129 of the QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Center for Development of Land Resources of Quang Ninh	3	Jun.15.'10	DONRE
46	Decision No.331 of the QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Center for Environmental Monitoring and Analysis	3	Jun.15.'10	DONRE
47	Decision of the QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Center for Information and Technology	3	Jun.15.'10	DONRE
48	Decision No.332 of the QN DONRE Director on Functions, Tasks, Authorities and Organizational Structure of the Center for Cadastral Techniques	2	Jun.15.'10	DONRE
49	Report No. 278/BC-PN from PWO about responding to the national week of clean water – sanitation and Environmental International day in 2010	7	Jun.18.'10	WU
50	Letter No.177 from PWO about responding to the national week of clean water – sanitation and Environmental International day in 2010	2	Jun.18.'10	WU

No.	Name of document	No. of pages	Date received	Receive from
51	50c-Ref No.200 from QN Women Union on Instruction organizing activities responding to the National clean water and World environmental day	2	Jun.18.'10	WU
52	Decision No. 1116/QD-UBNN PPC Decision on Functions and Tasks of Professional Divisions under Sub-department of Environmental Protection of Quang Ninh	3	Jun.14.'10	DONRE
53	Decision No.64 QD-TTg on April 22 2003 approving the plan for thoroughly handling establishments which cause serious environmental pollution	3	Jun.14.'10	DONRE
54	List of Serious Pollution sources under Decision No 64.2003.QD-TTg	1	Jun.14.'10	DONRE
55	Responsibilities of staff and labors working at Environmental Control section of Sub-Dept. of Environmental protection, DONRE		June.18.'10	DONRE
56	Circular of providing implementing guidelines on Decree 137-2005-ND-CP on Environmental protection fees payable for mineral mining	8	June.18.'10	DONRE
57	Pollution Facility Data EPU	18	June.18.'10	DONRE
58	Discussion Paper - Numerical targets	2	July.7.'10	DONRE
59	Plan No.1902 on 18 <sup>th</sup> May 2010 from PPC about Implementation of activities responding to the national campaigns on environmental protection in 2010	4	July.2.'10	DONRE
60	Letter in October 2009 from DONRE to MONRE and PPC about the report of results responding Program Clean up the world 2009.	2	July.2.'10	DONRE
61	Letter No.1395 on 22 <sup>nd</sup> July 2009 from DONRE to MONRE and PPC about the report of results responding the Environmental day 5 <sup>th</sup> June 2009	3	July.2.'10	DONRE
62	Conceptual design and Work plan for Environment management information system (Draft)	11	July.10.'10	DONRE
63	Decision No.2708 from PPC- Dept. of Tourism, Sport and Culture on Issuing Operation Regulations of Dept. of Tourism, Sport and Culture	12	July.12.'10	DONRE
64	Report on environmental protection activities in Halong Bay	6	July.26.'10	DONRE
65	Decision No.18 from MONRE on Issuing statistic criteria of environmental department.	17	July.12.'10	DONRE
66	Table of Network points for Monitoring the Air environment-Noise	2	July.5.'10	DONRE
67	Report the environmental monitoring results of Quang Ninh province in 2006 rain-season	3	July.13.'10	DONRE
68	Report the environmental monitoring results of Quang Ninh province in 2007 rain-season	3	July.13.'10	DONRE
69	The monitoring network of water environmental quality	5	July.15.'10	DONRE
70	Decree No.21 on 28 <sup>th</sup> February 2008 from Government about adjust, supplement some articles of Decree No.80 on 9 <sup>th</sup> Aug 2006 of Government on the detail regulations and guidelines for implementation of some articles on Environmental protection Law	13	July.16.'10	DONRE
71	Circular No.07 on 3 <sup>rd</sup> July 2007 from MONRE of guide for classification and decide the list of organizations causing environmental pollution that should be handed	11	July.16.'10	DONRE
72	Decision No. 1954 on 30 June 2010 from Quang Ninh PPC on approval of investment projects for construction of project that belongs to environmental protection in Ha Long city, Quang Ninh province, use of ODA foundation by the government of Japan.	6	July.16.'10	DONRE
73	Status of Environment in Quang Ninh in 2006	99	July.16.'10	DONRE
74	Example of "Minutes of check of Compliance of EIA and the requirements of EIA approval decision by the project in Cai Lan Port	7	July.16.'10	DONRE
75	Training course for environmental Inspector	1	July.21.'10	DONRE
76	Check record of DONRE with environmental protection affair of Vietmindoc company	3	July.21.'10	DONRE
77	Record of administrative violations on environmental protection field	2	July.21.'10	DONRE
78	Letter from DONRE to PPC to report inspection result of Vietmindoc company	3	July.21.'10	DONRE
79	Decision of Inspection DONRE on sanctioning administrative violations on environmental protection field	2	July.21.'10	DONRE
80	EPC for the construction investment project of Ocean JSC company and the Approval decision attached	48	July.21.'10	DONRE
81	EIA report – Luxury Villas Project on Thuy San Hill	98	July.22.'10	DONRE
82	EPC for Yen Lap Hydro-Power Station	29	July.22.'10	DONRE
83	Commitment minutes to protect environment of Khai Huong restaurant	25	July.22.'10	DONRE
84	EIA report of brick production project in Dong Trieu district	55	July.26.'10	DONRE
85	EIA report of Coal Mining Investment, Suoi Lai Mine	85	July.26.'10	DONRE

No.	Name of document	No. of pages	Date received	Receive from
86	Decision No.1874 from PPC on approval mission of investment in construction the building: renovate and upgrade facilities for night parking on Ha Long Bay	2	Aug.25.'10	DONRE
87	Planning & Discussion on present status of environment checks at Sub-dept. of Environmental Protection	8	July.23.'10	DONRE
88	Book- Coral reefs of Halong Bay	70	July.23.'10	HBMD
89	Book- Marine products of Halong Bay	83	July.23.'10	HBMD
90	Book-The Birds on Halong Bay and Cat Ba Island	90	July.23.'10	HBMD
91	Book- The Mangroves of Halong Bay and Nearby Areas	69	July.23.'10	HBMD
92	Book-Halong bay and human life	70	July.23.'10	HBMD
93	Book-The Fishermen on Halong Bay	70	July.23.'10	HBMD
94	Book-The Geology and Geomorphology of Halong Bay Wonders of Halong Bay	70	July.23.'10	HBMD
95	List of Hotels in Quang Ninh	45	July.29.'10	DCST
96	List of Restaurants in Halong	6	July.29.'10	DCST
97	Regulations on Management of business operation for tourist transportation on Halong Bay	42	July.29.'10	DCST
98	Collection of data from Dept. of Culture sport and tourism of QN province for JICA project	40	July.29.'10	DCST
99	Circular No.30/2004 of MONRE on Guiding the development, revision and appraisal of Land use master plans	38	July.30.'10	DONRE
100	Report No.2136 from DCST about the Culture, Sport, Tourism and Family affair in 2008. Orientation and main tasks in 2009	18	July.30.'10	DCST
101	Report No.25 from DCST on Working results in 2007. Orientation and main tasks in 2008	12	July.30.'10	DCST
102	Report No.845 from DCST on Summarizing in 2006, orientation and tasks in 2007	9	July.30.'10	DCST
103	Report No.37 from DCST on Summarize tourist activities in 2005, orientation and tasks in 2006	13	July.30.'10	DCST
104	Draft from DCST on report tourism work in 2009. Orientation, task and solution to implement the plan in 2010 of tourism in Quang Ninh	14	July.30.'10	DCST
105	Decision No.3255 from PPC on approval the project of investment in infrastructure construction Ha Long eco-museum center	3	Aug.25.'10	DONRE
106	Decision No.1773 from PPC on assignment 78,155m2 of land area for 1 <sup>st</sup> Project management Board to build Eco-museum and give temporarily 18.420m2 land to construct firstly at Hong Hai ward – Ha Long city	2	Aug.25.'10	DONRE
107	Decision No. 1278 from Prime Minister on approval the Project Pre-feasibility building Ha Long eco-museum	3	Aug.25.'10	DONRE
108	Decision No.156 from Prime Minister on approval the General planning the system of museum to 2020	10	Aug.25.'10	DONRE
109	Announcement No. 123 from PPC about the Conclusion of Mr. Nguyen Hong Quan – Vice standing chairman at the report meeting of the project Ha Long eco-museum and implementation plan “ Reservation and development the value of Ha long bay heritage planning”	3	Aug.25.'10	DONRE
110	Letter No.41 of proposal concerning submission for Approval of amended detail planning for construction scale of 1/500 of Halong Eco-museum Hub in the area of Hong Hai ward, Halong city	7	Aug.25.'10	DONRE
111	Letter No. 2451 from PPC to Standing Committee about management and implementation the Eco-museum project	2	Aug.25.'10	DONRE
112	Letter No. 4085 from MCST to HBMD about agreement of Halong eco-museum planning	2	Aug.25.'10	DONRE
113	Letter No. 1199 from PPC about adjustment of project location Halong eco-museum	1	Aug.25.'10	DONRE
114	Letter No.4093 from PPC to HBMD about the implementation of Eco-museum project	1	Aug.25.'10	DONRE
115	Announcement No. 199 from Quang Ninh committee about the conclusion of the Party Committee Secretary at the assessment meeting of implementation results of the Halong eco-museum project	2	Aug.25.'10	DONRE
116	The regulations of Halong bay environmental protection (book A5)	32	Aug.25.'10	DONRE
117	Feasibility Study 2001 – The Ha Long eco-museum	139	Aug.25.'10	DONRE
118	General presentation of Planning of Reservation and promotion the value of Halong Bay Heritage to 2020 by Ministry of Construction	100	Aug.25.'10	DONRE
119	Decision No. 458 from PPC ( Cam Pha 2020)	12 digital	Aug.25.'10	DONRE

No.	Name of document	No. of pages	Date received	Receive from
120	Decision No. 509 from PPC (Yen Hung 2020)	11 digital	Aug.25.'10	DONRE
121	Decision No. 3631 from PPC (Hoang Bo 2020)	9 digital	Aug.25.'10	DONRE
122	Master Plan on Socio-economic Development of Cam Pha Town to 2010 and Orientation to 2020	94 digital	Aug.25.'10	DONRE
123	Master Plan on Socio-economic Development of Hoanh Bo to 2010 and Orientation to 2020	86 digital	Aug.25.'10	DONRE
124	Quang Ninh Master Plan to 2010 and Orientation to 2020 (last version Dec 06)	152 digital	Aug.25.'10	DONRE
125	Halong City Master Plan to 2015 and Orientation to 2020	199 digital	Aug.25.'10	DONRE
126	PPC Approval Decision 619 re Ha Long Master Plan on Socio-economic development	13 digital	Aug.25.'10	DONRE
127	Prime Minister Approval Decision 269-2006 re Master Plan on Socio-Economic Development to 2010 and Orientation to 2020	19 digital	Aug.25.'10	DONRE
128	Master Plan on Socio-economic Development of Yen Hung to 2010 and Orientation to 2020	91 digital	Aug.25.'10	DONRE
129	The results of Implementation of social-economic targets.	11	Oct 5 '10	DONRE
130	Explanatory report on monitoring point network of water environmental quality at Halong Bay	6	Oct 11 '10	DONRE
131	Summary of tourism data	13	Oct 11 '10	DONRE
132	Plan of tourism development in Quang Ninh from 2001 to 2010	121	Oct 11 '10	DONRE
133	Environmental Protection Plan for Areas of Halong, Cam Pha and Yen Hung to 2010 and Orientation to 2020	640	Oct 13 '10	DONRE
134	List of approval EIA, EPC of Van Don from 2008 - 2010	2	Oct 19 '10	DONRE
135	Summary of registration certification result of the Environmental Protection Commitment (EPC) of Cam Pha in 2009	4	Oct 19 '10	DONRE
136	List of villages, hamlets in Quang Ninh	89	Oct 19 '10	DONRE
137	The information of University of Science (Chemical faculty)	12	Oct 26 '10	DONRE
138	Project for study on Ecotourism model development in Halong Bay	17	Oct 26 '10	HBMD
139	Table of EIA project in Quang Ninh	154(digital)	Oct 26 '10	DONRE
140	Collection of resources and environmental marine – Section X	351	Nov 8 '10	DONRE
141	Collection of resources and environmental marine – Section XIV	289	Nov 8 '10	DONRE
142	Plan No. 103 from Youth Union for Execution of Logotype and Slogan for environmental protection under JICA project	2	Nov 10 '10	YU
143	Proclaim of planning the Hoanh Bo – Geleximco industrial zone (include decisions)	9	Nov 15 '10	DONRE
144	TCVN-2009 Standards of Tourist Guest House	14(digital)	Nov 10 '10	DCST
145	TCVN – 2009 Standards of Hotels - Classification	40(digital)	Nov 10 '10	DCST
146	Mapping of marine species habitat in Halong bay	9(digital)	Dec 3'10	DONRE
147	Habitat survey of the marine species in 2003 Ha Long Bay	45	Dec 3'10	DONRE
148	Task of survey, preparation for project of marine environmental protection in Halong bay	90	Dec 9'10	DONRE
149	Environment Check Plan 2010 of Sub-Dept. of EP	4	Feb 14 '11	DONRE
150	Inspection Plan for 2011	3	Feb 14 '11	DONRE
151	Plan: Schedule of provincial status monitoring Quarter I – Year 2011 from DONRE	3	Feb 14 '11	DONRE
152	Revised Environment check plan 2010 of Sub-dept. of EP No.106	4	Feb 16 '11	DONRE
153	Report of operating status of Quang Ninh economic zone on Jan 2011	10	Feb 17 '11	QN Economic Zone
154	Investigation form for tourism business facilities	13	Feb 17 '11	DONRE
155	Guideline book for Environmental impact assessment of tourism development	62	Feb 17 '11	DONRE
156	Report on Overall current Environment situation in QN province, Period 2006-2010	250	Feb 17 '11	DONRE
157	Coral reef ecosystem in Halong	2	June '11	DONRE
158	QN PPC Decision No.716/2011/QD-UBND dated 15 <sup>th</sup> Mar 2011 Re: Decision on operation management of tourist boats for Halong Bay excursion and overnight stay	42	June 3 '11	DCST
159	Draft national standards TCVN: Tourist boats overnight stay - Classification	25	June 3 '11	DCST

No.	Name of document	No. of pages	Date received	Receive from
160	Vietnam Environment administration magazine No.3-2011	61	June 3 '11	VEM
161	QN PPC Plan no. 595 dated 3 <sup>rd</sup> March 2011- Plan of Halong tourism week included Halong Carnival 2011	7	June 20 '11	DCST
162	Environmental Monitoring Plan Quarter 3-2011	2	June 24 '11	DONRE
163	Report on Monitoring Result on Quang Ninh Environment Quarter 1-2011-V	72	June 24 '11	DONRE
164	DONRE plan no. 29/KH-BVMT – 2011 work plan dated on 5 <sup>th</sup> March 2011	7	June 27 '11	DONRE
165	Report No.122 from Halong beverage and fresh drinks company on complying Environmental law	2	June 30 '11	DONRE
166	Halong bay's coral reef report	22	June 30 '11	DONRE
167	Working plan no.46 for 2011 (Environmental management division-HBMD)	4	July 1 '11	HBMD
168	Enhancing the coral rehabilitation process via the natural recruitment technique in the Ha Long Bay, Natural World Heritage Site, Vietnam Project	28	July 1 '11	IMER
169	Coral reefs in Viet Nam (final report) - IMER	9	July 1 '11	IMER
170	Inspection check minute of Beverage company from Inspection division – DONRE	4	July 1 '11	DONRE
171	QN PC Decision No. 2061/QD-UBND on Establishment of QN Environment Protection Fund (QNEPF)	5	July 6 '11	QNEPF
172	QN PC Decision No. 555/QD-UBND on Promulgation of Organization and operation of QNEPF	14	July 6 '11	QNEPF
173	Annual Report on environment protection-Khe Sim Coal Co	4	July 7 '11	DONRE
174	Minutes of Inspection - Khe Sim Coal Company	3	July 7 '11	DONRE
175	Draft of regulation of using environmental fund in Quang Ninh	10	July 11 '11	DONRE
176	Resolution No.33.2010 QD-HDND QN	7	July 20 '11	DONRE
177	PPC Decision No. 775 on approve the New rural construction scheme in Quang Ninh	10	July 19 '11	DONRE
178	Directive Provincial standing party committee on strengthen of leadership and guidance to management and EP in QN	3	July 19 '11	DONRE
179	EIA Report from Construction outside the coastal boundary road in Cao Xanh project	148(digital)	July 19 '11	DONRE
180	Detail planning for construction of Halong heritage road and Bai Chay tourism port of Tuan Chau Group	72	July 20 '11	DONRE
181	Table of Planned Project in coastal area of Bai Chay		July 20 '11	DONRE
182	PPC Decision No.1975	14	July 21 '11	DONRE
183	Certificate of land use right for aquaculture on tidal area	4	July 20 '11	DARD
184	Fishing license (form)	4	July 20 '11	DARD
185	Report on result of review, re-planning three types of forest in QN, 2007	147	July 20 '11	DARD
186	Report on protection and development planning of mangrove forest, 2005-2015	56(digital file)	July 20 '11	DARD
187	Decision 2556 on approval of protection and development planning of mangrove forest 2005-2015	3	July 27 '11	DARD
188	Report on situation of mangrove P&D of QN 2007	3(digital file)	July 20 '11	DARD
189	Report on situation of project preparation & implementation for protection & development of mangrove forest, 2011-2015 of QN	8 (digital file)	July 20 '11	DARD
190	Instructions No. 07/2006/CT-UBND on Strengthening of Ecological Environmental Protection of Halong Bay	9 (digital file)	Aug 2 '11	DONRE
191	Draft report of Land use planning to 2020	240	Aug 2 '11	DONRE
192	Decision No. 142/2002/QD-TTg of Prime Minister on Approval for Planning of Conservation and Promotion of Halong Bay Heritage Values	4 (digital file)	Aug 2 '11	DONRE
193	Decision no. 99/2008/QD-UBND on Promulgation of regulation on sequence, procedure for Land allocation, land lease, conversion of land use purpose, land recovery and issuance of land use right certificate	6	Aug '11	DONRE
194	PPC letter to MPI on Report on list of Projects to Utilize Japanese ODA Favorable Fund, Stage 2, Fiscal year 2011	2	Aug '11	DPI
195	Decision No. 70/DLHL-KD of Halong Electricity in regards of Notice on Electricity Tariff as of 1/3/2011”	1	Aug '11	DONRE
196	Population data to commune levels of Quang Ninh 2000-2010	4	Oct 10 '11	Sub-Dept. of Statistics



No.	Name of document	No. of pages	Date received	Receive from
197	Decision No. 3018/2011/QĐ-UBND on amendments to articles of Regulation on operation management of tourist boats for HL bay excursion and overnight stay	4	Oct 12 '11	DONRE
198	Report of Quang Ninh Tourism Development Master Plan, period 2011-2020 toward to 2030	32	Nov 12 '11	DCST
199	Summary Report on QN tourism development planning, period 2011-2020, orientation to 2030	32	July 25 '12	DCST,
200	Materials of Seminar on Energy and Water saving solution for Hotel-boat-restaurant	27	Nov 14 '11	DCST
201	Working Record with the Cai Lan Vegetable Oil Plant Environmental Check.	5	Nov 15 '11	DONRE
202	Report from Environmental Control Division-Sub dept. of EP on implementation of tasks, targets in 2011	4	Nov 22 '11	DONRE
203	PPC decision No. 2055/QĐ-UBND re assignment of task to collect, treat wastes from Halong Bay.	2	Dec 22 '11	DONRE
204	PPC Decision No. 3509/QĐ-UBND to approve the Plan for Management of the Halong Bay World Heritage Site, period 2011-2015.	12	Dec 22 '11	DONRE
205	Inspection Plan of DONRE QN in 2012	3	Feb.6. '12	DONRE
206	Report from Mao Khe Coal Co.	3	Feb.7. '12	DONRE
207	Official document No. 390 by QN PPC and Petitions by Households in Mao Khe	4	Feb.9. '12	DONRE
208	Establishment Decision and Work plan for Inspection Team for Mao Khe Coal Co.	5	Feb.9. '12	DONRE
209	Work plan for Checking Environmental Protection Work at the Production, Business and Service Units in Quang Ninh, 2012	16	Feb. 3 '12	DONRE
210	Report on Actual state Assessment of Mangroves in Yen Hung District	5	Feb. 15 '12	DONRE
211	Conclusions on Inspection of Environment and Water resources Protection to the Mao Khe One Member Company - Vinacomim	4	Feb. 24 '12	DONRE
212	Circular 42 – Electricity cost table	1	Mar. 15 '12	DONRE
213	Regulation of Vietnam Association for Conservation of Nature and Environment	6	Mar. 15 '12	DONRE
214	Report – works in 2011 & Plan in 2012 - DCST	11/30	Mar. 22 '12	DCST
215	Decision of QN PPC on Changing of Head of CEM	2	Mar. 30 '12	DONRE
216	Record of Environment Inspection to Halong Cement Co.	11	Apr 6 '12	DONRE
217	Record of Environment Check to Yen Tho Mechanical Joint-stock Co.	3	Apr 9 '12	DONRE
218	Record of Environment Check to Mining Chemicals Co.	4	Apr 9 '12	DONRE
219	Record of Environment Check to Vinh Thang Co.	5	Apr 9 '12	DONRE
220	Record of Environment Check to Halong Cement Co.	2	Apr 9 '12	DONRE
221	Record of Environment Check to Thang Long Cement Co.	4	Apr 9 '12	DONRE
222	Record of Administrative Violation Sanction of Thanh Thang Co.	2	Apr 10 '12	DONRE
223	Record of Administrative Violation Sanction of Everbest Vietnam Co., Ltd.	2	Apr 10 '12	DONRE
224	Record of Environment Check to Everbest Vietnam Co., Ltd.	4	Apr 10 '12	DONRE
225	Report from Mr. Dung Implementation of Decision No. 71/2008/QĐ-TTg	4	May 23 '12	DONRE
226	Environment Day June 5th 2012: Green Economy: Does it include you?	85	Jun 4 '12	DONRE
227	Environmental Magazine – Topic: Environment Day, green economy	53	Jun 4 '12	VEA
228	Yearbook of Workshop: Green Economy and Sustainable development	252	Jun 4 '12	DONRE
229	Guidelines for SEA of Socio-economic development strategies	227	Jun 4 '12	MPI
230	Fossil Fuel Fiscal Policies and GGE in Vietnam	45	Jun 4 '12	UNDP
231	Sustainable Vietnam	71	Jun 4 '12	MPI
232	Decision No.10 for PPC on painting for tourist boats	1	Jun 6 '12	DCST
233	Halong Eco-town		Jun 6 '12	DONRE
234	Data on overnight stay boats and excursion boats to 25/05/2012	25	Jun 13 '12	DCST
235	An article about boat white painting	1	Jun 10 '12	Tourism Boat association
236	Speech of Mr. Dang Huy Hau, Vice-chairman of Quang Ninh PPC at Workshop on Green Economy and Sustainable Development, on June 5, 2012 in Grand Hotel, Halong City	5	Jun 5 '12	DONRE
237	Table of Contents – Green Economy and Sustainable Development Book	3	Jun 5 '12	DONRE
238	EMAC Project on Software.VN	6	Jun 22 '12	DONRE
239	Green growth: interview to DCST director	2	Jun 5 '12	DONRE
240	Article on Interview to Mr. Nguyen Manh Cuong (from Vietnam Environment Administration Magazine (VEM))	3	Jun 5 '12	DONRE
241	Article on Deo Nai Joint Stock Com.' Dumping Site. EN (from Vietnam Environment Administration Magazine (VEM))	2	Jun 5 '12	DONRE
242	Charter of Quang Ninh Union of Technology and Science Association	9	Jul 6 '12	DONRE

No.	Name of document	No. of pages	Date received	Receive from
243	Socio-economic development proposal for Van Don, Mong Cai	30	Jul 17 '12	DONRE
244	Estimative production of seafood in Hoang Tan area	1	Jul '12	Quang Yen Town PC
245	Announcement No.162/TBUB-2012 by Quang Yen PC regarding acceptance of registration for Environmental Protection Commitment for aquaculture project in Phong Hai Ward	2	Jul '12	Quang Yen DONRE
246	Environmental Protection Commitment by aquaculture project owner at Mac Dynasty Lagoon Area, Lien Vi Commune, Quang Yen Town.	13	Jul '12	Quang Yen DONRE
247	Announcement No.170/TBUB-2012 by Quang Yen PC regarding acceptance of registration for Environmental Protection Commitment for aquaculture in Lien Vi Commune	2	Jul '12	Quang Yen DONRE
248	Certificate of land use rights for aquaculture in Lien Vi Commune- Quang Yen Town.	4	Jul '12	Quang Yen DONRE
249	Report on investigative results on current status of mangrove forest and tidal land in Halong City-2010	36	Jul '12	Halong City PC
250	Current state map of mangrove forest and tidal land in Halong City (Under above investigation)		Jul '12	Halong City PC
251	Draft Scheme on Restructuring of HBMD	9	Jun '12	DONRE
252	PPC decision on changing some CEM members and Counterpart Groups members	4	Aug '12	DONRE
253	Proposal Letter to VEA reg. Substitution member of CEM from MONRE for Mr. Hoang Danh Son whose working position is changed for the Vice-director of QN DONRE.	1	Sep. '12	DONRE
254	Legal Doc. On Environmental Protection of Halong Bay and QN Province	3	Sep. '12	DONRE
255	Outline Planning for Environmental Protection in Cam Pha City		Sep. '12	DONRE
256	Report on Environmental monitoring result	30	Sep. '12	LICOGI Company
257	Manual for installation and maintenance of wastewater treatment plant no.2		Sep. '12	LICOGI Company
258	PPC instruction No. 4942 to Quang Ninh IPA re" Study, preparation of proposal report for Halong Bay environment protection projects	1	Oct 10 '12	DONRE
259	Resolution 64 Re results on supervision of forest land allocation, management of forest land ...	8	Oct 23 '12	DONRE
260	Draft circular on Regulation of Quality assurance and Quality Control in Environment monitoring	36	Oct 23 '12	DONRE

**添付資料-5**  
**現地再委託の概要**

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## 再委託業務完了報告書

2012年2月27日

ハロン湾環境保全プロジェクト(第2年次:2012年度)

岩井 陽一

### 再委託業務名称: 汚染源インベントリ (その2)

#### 1. 再委託先

Center for Application of Advanced Scientific Technology 社

#### 2. 契約金額

最終契約金額は以下のとおりである。

再委託先	契約金額(USD)	契約時点の換算金額 (円)
Center for Application of Advanced Scientific Technology	11,495	931,900 <sup>*1</sup>

※1:2012年5月 USD1=JPY81.07

契約月: 国際協力機構 業務実施契約、業務委託契約における外貨換算レート表より

#### 3. 再委託の期間及び目的

汚濁源インベントリ (その2) の再委託業務は、カウンターパーと協議の結果、再委託の目的は次のとおりとなった。

再委託先	契約期間	再委託の目的及び作業内容
Center for Application of Advanced Scientific Technology	2012年5月 ~2012年7月	成果2「環境管理」に係り、前年度までの同調査を踏まえて汚染源調査の総仕上げとして、ハロン地域の残り地区であるカムファ町、ホアンボ郡における汚染源調査を実施した。

#### 4. 作業結果

- 1) カムファ町、ホアンボ郡の汚染源インベントリデータの情報が収集され、データの網羅性・精度が向上した。
- 2) 収集・整理されたインベントリデータは汚染源マップ作成に活用された。

以上

## 再委託業務完了報告書

2012年2月27日

ハロン湾環境保全プロジェクト(第2年次:2012年度)

岩井 陽一

### 再委託業務名称:観光客アンケート

#### 1. 再委託先

Hon Gai Tourist & Service Joint-Stock Company

#### 2. 契約金額

最終契約金額は以下のとおりである。

再委託先	契約金額(USD)	契約時点の換算金額(円)
Hon Gai Tourist & Service Joint-Stock Company	7,381	578,006 <sup>*1</sup>

※1:2012年8月 USD1=JPY78.31

契約月:国際協力機構 業務実施契約、業務委託契約における外貨換算レート表より

#### 3. 再委託の期間及び目的

持続的な観光パイロット活動の再委託業務は、カウンターパートと協議の結果、再委託の目的は次のとおりとなった。

再委託先	契約期間	再委託の目的及び作業内容
Hon Gai Tourist & Service Joint-Stock Company	2012年8月～ 2012年9月	観光客へのアンケートを実施し、第一年次に実施した観光セクターベースライン調査での観光客アンケート調査結果と比較し、成果4の活動に活用、反映された。

#### 4. 作業結果

観光客へのアンケートにより、観光客の動向、観光形態の現状、地域の観光資源、観光客によるハロン湾の環境意識に係る評価を把握、分析するとともに、それらの結果を第一年次に実施した観光セクターベースライン調査での観光客アンケート調査結果と比較し、成果4の活動として実施しているハロン湾の持続的な観光のための施策に活用、反映された。

以上

## 再委託業務完了報告書

2012年2月27日

ハロン湾環境保全プロジェクト(第2年次:2012年度)

岩井 陽一

### 再委託業務名称: 環境教材作成及び環境教育広報活動(その2)

#### 5. 再委託先

Rich Media Limited Company 社

#### 6. 契約金額

最終契約金額は以下のとおりである。

再委託先	契約金額(USD)	契約時点の換算金額(円)
Rich Media Limited Company	48,450	3,978,229 <sup>*1</sup>

<sup>\*1</sup>:2012年12月 USD1=JPN82.11  
第2回変更契約月: 国際協力機構 業務実施契約、業務委託契約における外貨換算レート表より

#### 7. 再委託の期間及び目的

環境教材作成及び環境教育広報活動の再委託業務は、カウンターパーと協議の結果、再委託の目的は次のとおりとなった。

再委託先	契約期間	再委託の目的及び作業内容
Rich Media Limited Company	2012年7月 ~2012年12月	成果5「環境教育・広報」に係り、環境教育・広報に関するウェブサイトの開設、環境教育推進のためのプロモーショングッズ・機材の作成、環境教育・広報の実施に伴うワークショップ等開催支援を実施した。

#### 8. 作業結果

- 1) プロジェクト成果を公表するための環境教育・広報に関するウェブサイトを開設した。
- 2) 環境教育推進のためのプロモーショングッズ・機材の作成を以下のとおり作成した。
  - ・ ECO-Quiz book 400 books
  - ・ Eco-song DVD 500 DVDs
  - ・ Project T-shirt 1,500 shirts
  - ・ Project cap 500 caps
  - ・ Project cell phone case 500 cases
  - ・ Guidebook of EE&PR 200 books
- 3) 環境教育・広報の実施に伴い、地域住民に対しての啓発活動である一連の環境教育活動を実施した。また第2回目のエコフェアを2012年12月1日に実施した。

以上