

## 添 付 資 料

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## 1 .終了時評価調査表



プロジェクト方式技術協力終了時評価調査表

プロジェクト名	(和) トリニダッド・トバゴ漁業訓練計画 (英) The Regional Fisheries Training Project in Trinidad and Tobago																		
相手国	トリニダッド・トバゴ共和国																		
協力期間	平成 8 年 4 月 1 日より平成 13 年 3 月 31 日の 5 年間																		
R/D (協定)	平成 7 年 12 月 17 日																		
事業分野	農林水産業																		
技術協力分野	漁業訓練																		
相手国実施機関	農業土地海洋資源省 (Ministry of Agriculture and Rural Affairs) カリブ漁業訓練開発センター (Caribbean Fisheries Training and Development Institute)																		
終了時評価調査団	<table border="0"> <thead> <tr> <th>(担当)</th> <th>(氏名)</th> <th>(所属)</th> </tr> </thead> <tbody> <tr> <td>総括</td> <td>川村 始</td> <td>JICA 水産環境協力課</td> </tr> <tr> <td>漁業技術</td> <td>松岡 達郎</td> <td>鹿児島大学水産学部 教授</td> </tr> <tr> <td>漁船機関</td> <td>濱口 正人</td> <td>水産大学校 教授</td> </tr> <tr> <td>水産加工</td> <td>飯田 遙</td> <td>中央水産研究所 室長</td> </tr> <tr> <td>評価分析</td> <td>竹川 郁夫</td> <td>JICA 水産環境協力課</td> </tr> </tbody> </table>	(担当)	(氏名)	(所属)	総括	川村 始	JICA 水産環境協力課	漁業技術	松岡 達郎	鹿児島大学水産学部 教授	漁船機関	濱口 正人	水産大学校 教授	水産加工	飯田 遙	中央水産研究所 室長	評価分析	竹川 郁夫	JICA 水産環境協力課
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終了時評価調査実施日	平成 12 年 11 月 14 日 ~ 平成 12 年 11 月 28 日 (15 日間)																		
<u>プロジェクト・デザイン・マトリックス (PDM)</u>	添付資料 1 (第 7 会合同委員会、議事録 ANNEX I) を参照																		
活動計画書 (PO)	添付資料 1 (第 7 会合同委員会、議事録 ANNEX III) を参照																		

## プロジェクトの経緯概要

1．要請の内容と背景	
(1) 要請発出	1994年5月
(2) 内容と背景  (要請内容と要請に至った背景・対象地域及びセクター現状と相手国の開発政策との関連等を記述)	<p>ト国の経済は主に石油と天然ガスに頼っていたが、採掘量の減少と原油価格の低下によって切迫していた。そのため、経済政策見直しの一環として、国内需要の半分以上を輸入に頼っている水産物の自給を図るため、同国の有する広い漁場と水産資源を有効利用するために、沿岸零細漁業主体の漁業から200カイリ内の浮魚、回遊魚を対象とした沖合漁業への転換を図っている。しかしながら、ト国内の水産部門の人材養成機関として、1974年に UNDP / FAO の援助を受けて設立されたカリブ漁業開発訓練所(CFTDI)は、基本施設は整備されているものの訓練資機材と指導者の不足により、活動が滞っていた。そのため、1994年6月に同施設の再構築と機能強化を目的とした技術協力が日本に対して養成された。</p>
2．協力実施のプロセス 計画立案段階	
(1) 基礎調査	1993年10月24日～11月29日(37日間)
調査内容	<p>東カリブ機構(OECS)から日本に対して水産分野の技術協力の要請を受けて域内水産技術協力基礎調査が行われた。そこで、バナナをはじめとする農作物の輸出を英国や米国の特恵に頼らざるを得ない脆弱な経済基盤をもつ OECS 諸国では、水産業の発達による産業の多様化、雇用の増加、国民の栄養改善についての期待が高いことが確認された。</p>
決定事項	特になし

<p>(2) 事前調査</p> <p>調査内容</p> <p>調査結果概要</p> <p>決定事項</p>	<p>1994年12月4日～12月18日(15日間)</p> <p>東カリブ域内水産技術協力基礎調査の結果を踏まえ、本件の要請に係る背景、要請内容、ト国側の実施体制について具体的に調査・確認するとともに、プロジェクト方式技術協力として当事業団が実施する際の実施方針及び実施計画案についてト国側関係者と協議を行った。</p> <p>ト国側の水産分野の問題点が明らかになるとともに、日本側で対応すべき協力内容のフレームワークが策定された。</p> <p>先方政府と協議の結果、プロジェクト目標、指導分野、協力期間、両国政府が負担すべき措置等について合意事項についてミニッツに取りまとめた。</p>
<p>(3) 短期・長期調査</p> <p>調査内容</p> <p>調査結果概要</p> <p>決定事項</p>	<p>1995年7月16日～8月27日(日間)</p> <p>本プロジェクトに係る背景、要請内容、並びにト国側の実施体制の詳細を調査・確認し、プロジェクト方式技術協力プロジェクトとして我が国が実施する際の協力の範囲、実施方針及び実施計画案について、ト国関係者と意見交換を行った。</p> <p>ト国の1990年代の水産行政の指針として</p> <ol style="list-style-type: none"> <li>(1) 効果的かつ費用対効果の高い漁業管理の実施</li> <li>(2) 適切な資源保護と漁業管理により乱獲防止の徹底</li> <li>(3) 生態学的持続性に一致した水産資源の開発及び関連活動の実施の徹底</li> </ol> <p>があげられており、具体的施策のなかには適正漁労技術の開発、技能訓練、普及活動があげられており、本プロジェクト実施機関である CFTDI を中心とした活動に期待がかけられていることを確認した。</p> <p>案件実施の妥当性が再度確認されるとともに、具体的な協力内容についての合意が得られた。また、正式に、両国により R/D 締結に向けた取り組みが行われることで合意が得られた。</p>

3. 協力実施のプロセス 実施段階	
(1) 実施協議	1995年11月25日～12月9日(15日間)
調査内容	調査団は、農業土地海洋資源省及びカリブ漁業訓練所関係者との間で、実施協議議事録(R/D)及び暫定実施計画(TSI)に関する協議を行い、双方合意のうえ、1995年12月17日、討議議事録(R/D)への署名を行った。また、トリニダッド・トバゴ側予算、経費負担、施設整備、カウンターパート、秘書の雇用等についても双方で確認した。
決定事項	<p>プロジェクト実施における両国の役割、プロジェクトの目標、成果、活動内容、投入についての協議が行われた結果、下記の計画案のとおり活動が行われることが決定した。</p> <ol style="list-style-type: none"> <li>1) 協力期間：1997年4月16日から5年間</li> <li>2) 実施機関：カリブ漁業訓練所</li> <li>3) プロジェクト上位目標： <ul style="list-style-type: none"> <li>ト国内及び域内諸国において水産業に従事する人々の技術が向上する。</li> </ul> </li> <li>4) プロジェクト目標： <ul style="list-style-type: none"> <li>CFTDIの技術・研修内容の質が向上し、水産分野の人材育成能力が強化される。</li> </ul> </li> <li>5) 日本側協力体制 <ol style="list-style-type: none"> <li>(1) 長期専門家5名： <ul style="list-style-type: none"> <li>プロジェクトリーダー、プロジェクトコーディネーター、漁業技術、漁船機関、水産加工</li> <li>短期専門家：年間2～3名(必要に応じ)</li> </ul> </li> <li>(2) 研修員受入れ：年間2～3名</li> <li>(3) 機材供与：漁業訓練に必要な資機材(総額約15,000万円)</li> </ol> </li> <li>6) トリニダッド・トバゴ側協力体制 <ol style="list-style-type: none"> <li>(1) カウンターパート：6名(各分野2名)</li> <li>(2) 土地、建物及び施設 <ul style="list-style-type: none"> <li>専門家執務室、実習場、実習船、機材保管倉庫等</li> </ul> </li> <li>(3) 運営費 <ul style="list-style-type: none"> <li>プロジェクト運営に必要な経費(人件費、光熱費、機材及び施設の維持管理費)</li> </ul> </li> </ol> </li> </ol> <p><u>協力対象分野の基本計画</u></p> <p>各分野の基本計画については、これまで行われた事前調査及び長期調査の結果を踏まえ、下記の3分野における協力方針に基づき計画を立てることとした。</p>



	<p>(1) 漁業技術      当該地域の大部分は手釣り、曳縄、刺網、地曳網、かご等であり、一部地域に4～5日操業するマグロ延縄、釣り漁船もある。これらの漁法により、沿岸部の漁場は、既に開発し尽くされており、漁獲の減少、魚体の小型化などが見られるため、従来操業していない深場や、沖合いの未開発漁場の開発をめざした、最適漁具、漁法の導入を検討するための新規の漁業技術を行う。また、これまでト国内で行われている漁法についても、漁業資源の保存、環境保善等も考慮しながら、適正漁業技術への改善を図ることを活動方針とする。</p> <p>(2) 漁船機関      現在、ト国内の漁民が使用している漁船機関の保守管理技術の指導を行う。また、今後、ト国において漁業経営改善の観点から燃費の安いディーゼル船外機が導入される見込みであることから、ディーゼル機関の保守管理技術の指導を行う。また、沿岸漁業から沖合漁業への転換を視野にいれて、小型マグロ漁船用の小型ディーゼル機関の保守管理等の技術移転を行い、漁民等に直接裨益する技術移転を行うことを活動方針とする。</p> <p>(3) 水産加工      ト国では輸出向けの鮮魚以外は船上で氷は使用されていないため鮮度が悪く、投棄資源も多く、水産物の国内生産・消費の伸び悩みの一因となっており、その改善を図るとともに、鮮度悪化による、資源の有効活用の観点から、ト国内の水産加工技術の多様化をめざすことを活動方針とする。</p>
<p>(1) 計画打合せ</p> <p>調査内容</p> <p>調査結果概要</p>	<p>1996年11月25日～12月9日</p> <p>本調査団は国内での事前検討、現地調査を通して、第1回合同委員会(1996年8月20日)において了承された、5か年暫定詳細実施計画、1996～1997年度年間活動計画に関し、3分野の協力内容及び各々の期間の妥当性についての評価を行うとともに、専門家、及びト国政府関係者への提言を行った。プロジェクトの活動計画、調査団の提言については、1996年9月3日の第2回合同委員会において了承され、結果を農業土地海洋資源省モータ官及び日本側福井襄チームリーダーを署名者として議事録を取り交わした。</p> <p>調査の結果、計画内容はほぼ妥当であるとの評価が行われた。しかしながら、正式なカウンターパートの増員がなされていなかったため、より効率的な技術移転を行う観点から、カウンターパートを現状より多く配置するよう改めてト国側に申し入れた。</p>

<p>決定事項</p>	<p>各分野のテキストブック、及びコースカリキュラムの作成期間については、当初の2年間の計画期間を最終年度まで延長し、改善を加えながらより一層当該地域に適する内容とする。</p> <p>ト国側は訓練船供与に伴う船員の配置、一部未定のカウンターパートの早急な配置を行う。</p>
<p>(2) 巡回指導</p> <p>調査内容</p> <p>調査結果概要</p> <p>決定事項</p>	<p>1997年7月19日から8月3日まで16日間</p> <p>1996年8月に計画打合せ調査団を派遣した際に、合同委員会において双方が確認した当初2年間詳細活動計画及び5か年実施活動計画に照らし、初年度のプロジェクト進捗状況について確認するとともに、運営上の問題点、特に前回計画打合せ時に先方が約した訓練船乗組員及びカウンターパート配置状況・見通しについて確認する。</p> <p>本年度新規予算で実施予定の広域技術協力推進事業に関し、事業内容についてト国政府と協議するとともに、実施手順を説明し了解を取り付ける。</p> <p>上記広域技術協力推進事業の対象となる周辺国（初年度はセント・ヴィンセント、セント・ルシア、ドミニカ、グレナダの4か国）に対しても、計画の概要、諸手続について説明し了解を取り付ける。</p> <p>各分野のカウンターパートへの配置が遅れている。ト国内の主要漁業であるトロール漁業の技術移転の要望があげられた。</p> <p>広域技術協力推進事業に関し実施手順について、ト国側の快諾が得られた。</p> <p>参加対象国は本事業に対して大きな期待があること、特に HACCP に対する研修に大きな期待を寄せている。</p> <p>調査団よりト国にカウンターパートの2名体制の確保について申し入れるとともに、ト国側は引き続きカウンターパートの備上に努力する旨の回答を得た。</p> <p>広域技術協力推進事業については日本側の提案どおりで先方より合意が得られ結果を調査団とト国側代表者により広域技術協力推進事業に関するミニッツに署名を行った。</p> <p>広域技術協力推進事業については各国とも日本側の提案どおりで合意が得られ結果をミニッツに取りまとめた。</p>

<p>(3) 中間評価 調査内容</p>	<p>1998年9月5日から9月18日までの14日間 現地調査によりプロジェクト前半活動の進捗状況の調査及び評価を行うとともに、プロジェクト後半の計画策定について、運営面、技術面からの助言を行った。また、トリニダッド・トバゴ国より要請のあった、プロジェクト基盤整備費による、機関実習施設建設に係る R/D の追記を行った。</p>
<p>調査結果概要</p>	<p>プロジェクト評価時点で終える活動の進捗状況は、漁業技術分野の研修会等の企画・運営に携わるシニアカウンターパートが未配置であることを除き、ほぼ順調に推移していると評価された。また、平成9年度より行われた広域技術協力推進事業についても、事務手続きに若干の混乱は見られたものの、ほぼ順調に推移していると評価された。</p>
<p>決定事項</p>	<p>合同委員会において調査団が提言した以下の項目について、プロジェクトチームと CFTDI の間で次のことが合意された。</p> <ol style="list-style-type: none"> <li>1) CFTDI の漁業技術分野のシニアカウンターパートを採用の努力を行うこと。</li> <li>2) CFTDI の組織改革によってプロジェクトの活動に影響を与えないように配慮すること。</li> <li>3) 広域技術協力は本体プロジェクトに支障の無い範囲で計画されること。</li> <li>4) 広域技術協力は対象国のニーズをよく考慮して立てられること。</li> <li>5) テキストブックの作成にさらに取り組むこと。</li> <li>6) トバゴ島での活動を強化すること。</li> </ol>

<p>4. 協力実施過程における特記事項</p>	
<p>(1) 実施中に当初計画の変更はあったか</p>	<p>プロジェクト開始2年目より、広域技術協力推進事業が行われた。プロジェクト中間評価の時点で、漁船機関分野のうち、船外機保守管理技術については、漁民等からの要望が大変高かった分野について活動期間を延長したほか大きな変更はない。</p>
<p>(2) 実施中にプロジェクト実施体制の変更はあったか</p>	<p>カウンターパートは、当初計画どおり配置されなかったため、長期専門家が新たに配置されたカウンターパートに同じ指導科目を指導する必要があったことのほか、漁業訓練分野のカウンターパートが配置転換のために離職する等、非効率な面が見られた。</p>

<p>5 . 他の援助事業との 関連 ( JICA による他の関連 事業、OECD による有 償資金協力事業、他国 の援助機関事業、国際 機関事業等について協 力事業名、事業内容、 実施機関等を記入 )</p>	<p>カナダ国際開発庁が CARICOM 諸国の水産資源調査を行ってお り、2000 年で活動が終了した。</p>
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## II. 計画達成度

プロジェクトの計画内容がどこまで達成できたか、その度合いを「プロジェクトの要約」ごとに把握し、「実績」の欄に記入した。なお、下表の活動項目については、計画打合せ調査団で策定した活動計画を簡略化して標記してある。

プロジェクト要約	指 標	実 績	外部条件
<b>上位目標：</b> ト国内及び域内諸国において水産業に従事する人々の技術が向上する	1. 「ト」国及び域内諸国のCFTDIへの評価 2. 各協力分野で開発、改善された技術、手法の普及状況 3. 講習会数、内容、参加人数	1. 域内諸国へのアンケート結果 2. 「ト」国、日本側又は第三者による事後現況調査結果 3. 水産局、CFTDIの定期報告書、刊行物	
<b>プロジェクト目標：</b> CFTDIの技術・研修内容の質が向上し、水産分野の人材育成能力が強化される	1. 訓練生所属先の評価 2. CFTDIの活動・機能向上の内容 3. 各協力分野で開発された技術、手法の内容 4. 講習会数、内容、参加人数	1. 訓練生所属先へのアンケート結果等 2. 水産局、CFTDIの定期報告書、刊行物 3. 「ト」国、日本側又は第三者による事後現況調査 4. CFTDIへの予算措置状況	1. CFTDIが域内及び国内向けの訓練活動を継続する。 2. 訓練活動への十分な予算措置がなされる。 3. 施設、機材の更新が適切に行われる。 4. 講習対象者の講習会参加への意欲が高まる。
<b>成果：Outputs（成果）</b> 1. CFTDI講師陣の技術・専門知識が向上する 2. 適正かつ普及可能な漁業技術、漁船機関保守管理技術、水産加工・品質管理技術がCFTDIに蓄積される 3. 各分野で適切なカリキュラム、教材が整備される 4. より高度な講習会の開催が可能となる	1. 講師陣の技術向上の内容 2. 蓄積された各分野の技術の内容 a) 実態調査で得られた情報の内容（質、数） b) 導入又は改善された漁業技術の内容（質、数） c) 導入又は改善された漁船機関保守管理技術の内容 d) 試作された加工品数及び試験販売結果 e) 導入された品質管理手法による品質向上の内容 3. 改善された講習カリキュラム、教材の内容 4. 実施された講習会の内容 a) 研修員数、研修成果 b) 講習会後、一定期間経過後の訓練生所属先の評価	1. a) 印刷物、定期報告書等 b) 訓練生へのアンケート結果 2. a) 調査報告書、定期報告書 b) 操業報告書、定期報告書 c) 機関運転日誌、定期報告書 d) 定期報告書、試験販売アンケート e) 定期報告書、行程管理報告及び鮮度検査結果（細菌数等） 3. 訓練生へのアンケート結果、定期報告書 4. a) 研修報告書、定期報告書 b) 操業報告書、定期報告書 訓練生へのアンケート結果	1. 講習会実施体制が強化される。 2. CFTDIの活動に対し継続的に予算措置がなされる。 3. 施設、機材の維持管理が適切に行われる。 4. カウンターパートが継続的に配置される。

<p><b>活動：</b> 沿岸漁業の実態調査</p> <ol style="list-style-type: none"> <li>1. 漁業技術分野 <ol style="list-style-type: none"> <li>1) 立縄漁法指導</li> <li>2) 曳縄漁法指導</li> <li>3) 延縄漁法指導</li> <li>4) 底延縄漁法指導</li> <li>5) 浮き魚礁（FAD）利用漁業</li> <li>6) かご漁法指導</li> <li>7) 定置網</li> <li>8) イカ資源調査</li> </ol> </li> <li>2. 漁船機関分野 <ol style="list-style-type: none"> <li>1) 船外機保守指導</li> <li>2) ディーゼル機関保守指導</li> <li>3) 油圧機器保守指導</li> <li>4) 実習室整備</li> <li>5) ディーゼル船外機保守指導</li> <li>6) 船用電気保守指導</li> <li>7) 冷凍機器保守指導</li> <li>8) FRP 漁船保守指導</li> </ol> </li> <li>3. 水産加工分野 <ol style="list-style-type: none"> <li>1) 漁獲物処理法指導</li> <li>2) 冷凍保存法指導</li> <li>3) ねり製品加工指導</li> <li>4) 発酵食品加工指導</li> <li>5) HACCP 品質管理法指導</li> <li>6) 高品質維持保存法指導</li> <li>7) 指導手法、普及手法</li> <li>8) 品質管理用測定機器</li> <li>9) HACCP 対応加工工場設計</li> </ol> </li> </ol>	<p><b>投入：</b></p> <p>日本側：</p> <ol style="list-style-type: none"> <li>1. 専門家派遣 <ol style="list-style-type: none"> <li>(1) 長期（1名） <ol style="list-style-type: none"> <li>1) リーダー（1名）</li> <li>2) 業務調整（1名）</li> <li>3) 漁業技術（1名）</li> <li>4) 漁船機関（1名）</li> <li>5) 水産加工（1名）</li> </ol> </li> <li>(2) 短期：延べ18名</li> </ol> </li> <li>2. 研修員受入れ 延べ6名</li> <li>3. ローカルコスト <ol style="list-style-type: none"> <li>1) プロジェクト基盤整備費</li> <li>2) 広域技術協力推進事業費</li> <li>3) 啓蒙普及活動費</li> </ol> </li> <li>4. 機材供与 約164百万円</li> </ol> <p>ト国側：</p> <ol style="list-style-type: none"> <li>1. 人員配置 カウンターパート <ol style="list-style-type: none"> <li>1) 所長（1名）</li> <li>2) 業務調整（1名）</li> <li>3) 漁業技術（2名）</li> <li>4) 漁船機関（3名）</li> <li>5) 水産加工（3名）</li> </ol> </li> <li>2. 施設・設備 <ol style="list-style-type: none"> <li>1) 専門家執務室</li> <li>2) 漁具倉庫</li> <li>3) 加工実習室</li> <li>4) 講義棟</li> </ol> </li> <li>3. ローカルコスト <ol style="list-style-type: none"> <li>1) 人件費</li> <li>2) プロジェクト運営費</li> <li>3) 施設・設備の整備及び修理費</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. カウンターパートが適切に配置される。</li> <li>2. プロジェクト運営予算が継続的に確保される。</li> <li>3. CFTDI の組織・機能に大きな変更がない。</li> </ol> <p>前提条件</p> <ol style="list-style-type: none"> <li>1. 講師の資質を有する選任のカウンターパートが配置される。</li> <li>2. プロジェクト開始に必要な運営予算が確保される。</li> <li>3. 関係省庁・機関の協力が得られる。</li> </ol>
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### III. 評価結果要約

#### 1. 目標達成度

プロジェクトの「成果」が、「プロジェクト目標」の達成にどれだけつながるか、その見込みを検討した。

#### (1) プロジェクトの各「成果」が「プロジェクト目標」達成につながったその度合い

##### 成果の達成度

プロジェクト終了時評価における、プロジェクト目標の達成度は、カウンターパートの配置が当初計画どおり行われなかったこと、テキスト作成がいくつかの分野で遅れていること等、若干の遅延も見られるものの全体としては順調にプロジェクト目標を達成したと評価される。

成果1：CFTDI 講師陣の技術・専門知識が向上する。

漁業技術分野においては、新たな漁法を含め、様々な漁法に関する知識と実技を身につけるとともに、試験操業や資源調査に関する知識も深まった。漁船機関分野においては、船体・機関・冷凍機等についての知識と実技を身につけるとともに、訓練機材の取り扱いも習得した。水産加工分野においては、様々な保存方法や加工手法に関する知識と実技を身につけるとともに、試作品の販売に関する知識も身につけた。

これらの身につけた知識、実技等を基礎に、専門家による講習の補助者として着実に実績を上げるとともに、カウンターパート独自の研修会も開催する等、講師としての能力は向上し、満足されるレベルに達したと判断される。なお、受講者やその所属先から継続的な研修会の実施の要請が来る等、高い評価を得ている。

成果2：適正かつ普及可能な漁業技術がCFTDIに蓄積される。

成果3：適正かつ普及可能な漁船機関保守管理技術が蓄積される。

成果4：適正かつ普及可能な水産加工・品質管理技術が蓄積される。

漁業技術分野においては、浮き魚礁や曳縄漁法における潜航板が既に漁業者に普及する等、漁業者の要請に適合した技術の蓄積が図られている。漁船機関分野においては、船外機保守指導について研修会開催の継続した高い要請があり、また、ディーゼル船外機が省コスト機関として漁民からの関心が高まる等、漁業者の要請に適合した技術の蓄積が図られている。水産加工分野においては、試作されたさつま揚げが地元ホテルで利用される等、地元の事情に適合した技術の蓄積が図られている。

これらの蓄積された技術を基に、活潑に講習会や研修会が開催され、また、広域技術協力として域内周辺諸国における講習会や研修会にカウンターパートも同行し技術移転が図られる等、CFTDIの機能向上及び活動の活発化が図られたと判断される。

	<p>成果5：各分野で適切なカリキュラム、教材が整備される。</p> <p>蓄積された技術や知識、開催された講習会や研修会の成果は、今後の活動のためにカリキュラム及びテキストに取りまとめられる予定であり、プロジェクト終了までにほぼ完成する見込みである。</p>
	<p>成果6：より高度な講習会の開催が可能となる。</p> <p>プロジェクト期間中に、多くの講習会や研修会が開催され、その内容も随時高度なものとなった。継続的な研修会の実施に対する要請も多く、受講者やその所属機関からの評価も高いと判断される。今後、プロジェクト終了までにカリキュラムやテキストも整備される予定であることから、CFTDI独自の講習会や研修会が継続的に開催されると見込まれる。</p>
<p>プロジェクト目標達成につながるのを阻害した要因</p> <p>カウンターパートの配置が大幅に遅れたため、目標達成に非効率な面があった。一方、カウンターパートの配置の遅れの大きな原因として、ト国側がカウンターパートの任用のための要件を高く設定したこともあげられるが、結果として熱意、やる気、能力等、満足される人材が配置され、前半の遅れを取り返すことができたという面もある。</p>	
<p>(2) プロジェクトの各活動が成果につながったその度合い</p> <p>プロジェクト各活動は各成果に密接に関係しており、活動と成果の因果関係は極めて高いと評価される。</p>	
<p>活動の状況（ここでは活動項目を列挙した。詳細は報告書本文参照のこと）</p>	
	<p>活動 1：漁業技術分野</p> <p>1. 沿岸漁業の実態調査</p> <p>1) 立縄漁法指導</p> <p>2) 曳縄漁法指導</p> <p>3) 延縄漁法指導</p> <p>4) 底延縄漁法指導</p> <p>5) 浮き魚礁（FAD）利用漁業</p> <p>6) かご漁法指導</p> <p>7) 定置網漁法指導</p> <p>8) イカ資源調査</p>
	<p>活動 2：漁船機関分野</p> <p>1) 船外機保守指導</p> <p>2) ディーゼル機関保守指導</p> <p>3) 油圧機器保守指導</p>



	<ul style="list-style-type: none"> <li>4 ) 実習室整備</li> <li>5 ) ディーゼル船外機保守指導</li> <li>6 ) 船舶用電気保守指導</li> <li>7 ) 冷凍機器保守指導</li> <li>8 ) FRP 漁船保守指導</li> </ul>
	<p>活動 3 : 水産加工・品質管理分野</p> <ul style="list-style-type: none"> <li>1 ) 漁獲物処理法指導</li> <li>2 ) 冷凍保存法指導</li> <li>3 ) ねり製品加工指導</li> <li>4 ) 発酵食品加工指導</li> <li>5 ) HACCP 品質管理法指導</li> <li>6 ) 高品質維持保存法指導</li> <li>7 ) 指導手法、普及手法</li> <li>8 ) 品質管理用測定機器</li> <li>9 ) HACCP 対応加工工場設計</li> </ul>

	<p>成果につながるのを阻害した要因</p> <p>カウンターパートの配置が大幅に遅れ、各分野 2 名体制が確立したのがプロジェクト開始約 2 年半後であった。</p>
	<p>1. 効率性</p> <p>プロジェクトの効率性はやや低いと評価される。</p> <p>すべての分野において、日本人長期専門家とカウンターパートにより多様な訓練コースが実施され、地域の漁民、水産分野の人材に効率的に行われた。</p> <p>カウンターパートについては R/D で合意された人数が配置されなかった。漁業技術分野では、CFTDI において研修の企画・運営を担う職位につくカウンターパートが配置されていないことから、CFTDI の改組後に、より高度な訓練コースの実施、講師陣の編成、訓練カリキュラムの開発といった点が行われ続けるか不確定要素が残る。また、日本での研究を受けた漁業訓練分野のカウンターパートが、配置転換になった例があげられる。漁船機関分野では、プロジェクト開始当初に配置される予定であったカウンターパートの配置が約 2 年遅れたため、再訓練を行う非効率を生じた。</p> <p>短期専門家の派遣期間、及びカウンターパート研修の期間は、一部短すぎるという場合も生じたが、基本的な技術移転は行われた。</p> <p>2. 目標達成度</p> <p>1) プロジェクト目標</p> <p>成果 1 から 6 の達成状況から判断して、プロジェクト目標の達成度については高いと評価される。</p> <p>2) 上位目標</p> <p>これまでのプロジェクト及びカウンターパートの活発な活動の結果、浮き魚礁について地元の漁民に普及、漁船機関の講習会の要請が地元工業高校等より増加、船外機の保守・管理技術の普及により、故障が減少、投棄魚を利用したねり製品がホテル等で利用等の、ト国水産業への波及効果が発現しつつあり、さらに、広域協力の成果としても域内周辺諸国水産業への波及効果が見られつつあるなど、「トリニダード・トバゴ国内及び域内諸国において水産業に従事する人材の技術が向上する」との上位目標についてもその達成が図られつつあると判断される。</p> <p>3. インパクト</p> <p>(1) 直接的効果(「プロジェクト目標」レベル)</p> <p>閣議決定により CFTDI の改組後も引き続き水産分野の人材育成の強化が打ち出されており、プロジェクトの上位目標である、「ト国及び周辺地域の水産分野の人材の技術の強化」は引き続き重要事項として位置づけられている。</p>

( 2 ) 間接的効果

(「上位目標」レベル)

プロジェクト上位目標に対する効果は大きいと評価される。

プロジェクト目標である、「CFTDI の技術・研修内容の質が向上し、水産分野の人材育成能力が強化される」についても、現在、CFTDI が域内唯一の水産分野の協力機関であることから判断しても計画は妥当であると評価される。

3 . 妥当性

プロジェクトの「投入」から生み出される「成果」の程度を把握し、手法、方法、費用、期間等の適切度を検討した。

( 1 ) 投入のタイミングの妥当性 ( 日本側 )

・ 専門家の派遣

長期専門家 8 名、短期専門家延べ 18 名がほぼ計画どおりに派遣された。おおむね適切なタイミングで派遣されているが、短期専門家の派遣期間が短いという派遣も見られた。

・ 機材の供与

5 年間の協力期間で総額 164 百万円の機材供与が行われた。

・ 研修員の受入れ

計 15 名の研修員受入れを行った。受入れのタイミングは全体としてほぼ妥当なものであったと言える。

・ 現地業務費

1996 年度約 670 万円、1997 年度約 649 万円、1998 年度約 432 万円、1999 年度約 355 万円、2000 年度約 727 万円、総額約 2,833 万円の現地業務費が投入された。

( 相手側 )

・ 土地、施設・機材供与の措置

活動に必要な、土地の貸借料、電気料金、水道料金等について計画どおり支出された。また、Ned Shed 内にある水産加工実習場の整備の一部をト国側の予算で支出した。

・ カウンターパートの配置各分野 2 名ずつ、計 6 名、配置される予定であったが、3 分野で 2 名体制が確立したのは 1998 年であった。カウンターパートの配置が遅れた理由として、ト国側が C/P へ任命するために必要な要件を非常に高く設定したことも理由の 1 つであるが、その結果、熱意、能力とも高いカウンターパートが配置された。

(2) 投入と成果の関係 (投入の量・質と成果の妥当性)

・専門家の派遣

長期専門家 8 人の派遣の投入量から得られているプロジェクトの成果については、おおむね順調であった。また、短期専門家についても、周辺国より自費で参加希望が出される等、おおむね好評であったが、派遣期間を長くしてほしいという要望もあったものの、どちらの専門家も量・質と成果の関係はほぼ妥当なものであったと評価される。

また、広域技術協力についても、対象国からは研修会の開催を年 2 回としてほしい、機材供与をもっとしてほしいとの要望も見られたものの、長期専門家により相手国の現状にあった投入が行われていたと評価される。

・機材の供与

適材適所に機材が設置され、十分にプロジェクトの研究開発の活動に有効活用されている。

・研修員の受入れ

計 15 名の研修員を受け入れたが、日本での研修を通して、カウンターパートの技術、知見について目覚ましい向上が見られるとともに自信をつけており、それらの成果が CFTDI で行われている講習会等で発揮されている。

・土地、施設、機材の措置

トリニダッド・トバゴ側で準備した土地、施設の規模について、特段な大きな問題はないが、イカ漁業資源調査で使用した訓練船 (プロバイダー I 号) の老朽化が著しいことから活動に支障を生じた。

・カウンターパートの配置

カウンターパートは、現在の水産研究所の技術者のなかでは、数的にも資質的にも十分な人員が配置されていると評価される。それぞれのカウンターパートは活動の内容をよく理解し、熱心に活動が行われている。

・ローカルコストの負担

広域技術協力推進費として、1997 年から 2000 年にかけて総額約 62 百万円が支出された。

プロジェクト基盤整備費 (2000 年度より現地適用化事業費に名称変更) による機関実習施設建設費用として、2,441 万円が支出された。

啓蒙普及活動費として (2000 年度より現地適用化事業費に名称変更)、1999 年と 2000 年に総額 273 万円が支出された。

#### 4. 計画の妥当性

評価時におけるプロジェクト計画の妥当性を検討した。

##### (1) 上位目標の妥当性

###### ・開発政策との整合性

プロジェクトの上位目標はト国の開発政策との整合性、受益者ニーズとの整合性は妥当であると評価される。

ト国は、経済政策の見直しの一環として外貨獲得と国内自給率の向上を目的とした水産開発を展開し、なかでも水産分野の人材育成については、CFTDIの改組に係る閣議決定においても引き続き水産分野の人材育成の重要性が強調されている。また、ト国側のプロジェクト実施機関であるCFTDIはト国のみならず、東カリブ域内国も対象とした研修所として位置づけられており、年数回の研修会を独自に開催するなど、ある程度の予算措置も行われている。また、プロジェクト開始2年目より行われた、広域技術協力推進事業による、研修員受入れ手配、専門家派遣の際には、ト国側独自の予算によるカウンターパートを同行させる等、ト国側も積極的に取り組んでいる。また、広域技術協力も対象国から高い評価を得ている。

###### 受益者ニーズとの整合性

受益者のニーズとの整合性はほぼ満足される水準にある。

当該プロジェクトでは、カウンターパートのオンザジョブ・トレーニングを兼ねた漁村での研修会を重ねることにより、地域の漁民のニーズの把握に努めるとともに、それに答える形の協力が行われ、漁民より高い評価を受けている。

##### (2) プロジェクト目標の妥当性

###### 上位目標との整合性

海事・水産センター(MAFITT)による人材育成の強化が閣議承認されたように、水産分野の重要性は政府のハイレベルにおいても十分認識されており、それはCFTDIの改組後も水産分野の活動のための十分な予算措置を計算されていることから判断される。したがってプロジェクト目標と上位目標は現段階でも十分な整合性を保っていると評価される。

###### 実施機関の組織ニーズとの整合性

CFTDIの設立目的と本プロジェクト目標と完全に合致するものであり、整合性は極めて高いと評価される。

##### (3) 上位目標、プロジェクト目標、成果及び投入の相互関連性に対する計画設定の妥当性

##### (4) 妥当性に欠いた要因

(ニーズ把握状況、プロジェクトの計画立案、相手国実施体制等の観点から記述)

特になし

## 5. 自立発展の見通し

### 自立発展の見通し

各分野によって違いはあるものの、プロジェクト全体的な自立発展性としては不安定要素が残ると評価される。

#### (1) 技術面の自立発展性

技術面の自立発展性はやや低いと評価される。カウンターパートへの技術移転は適切に行われたものの、以下のような不安定要素があげられる。

現在の漁業技術分野のカウンターパートの履歴ではR/Dにより必要とされている各分野を統括するインストラクターとしての職位を与えられない。現在のカウンターパートは漁業技術分野の訓練を行う範囲ではインストラクターとして十分な能力をもっているものの、技術的自立発展性については統括するインストラクターとしての履歴を有する職員が採用されるかにかかっている。

漁船機関分野のカウンターパートはほぼすべての分野でインストラクターとしての能力を有しているが、いくつかの分野（冷凍装置、電気機器、水冷式エンジン）について更に高度な技術移転が望まれる。

水産加工分野の技術的自立発展性は、特に供与機材を維持、管理するための資機材の調達ルート確保が無いことにより特に影響を受けてきている。

#### (2) 組織面の自立発展性

組織的自立発展性は不安定要素が高いと評価される。

CFTDIの改組により公共事業・交通省へ所管が移転することが決定された。新組織は理事会が最高意志決定機関として位置づけられ、水産分野の活動についても実行が指示されるようになる。今後、改組委員会と農業土地海洋資源省、公共事業・交通省により持続可能な水産分野の開発を行うための長期的・短期的な水産分野の戦略が立てられるが、所管官庁が2つにまたがった組織となることから調整が難航することが危惧される。

CFTDIを強化するために必要な水産局と関連機関との協力関係がほとんどなかった。

#### (3) 財政面の自立発展性

財政面の自立的発展性は比較的高いと評価される。

海事・水産センター(MAFITT)による人材育成の強化が閣議承認を得られたように、水産分野の重要性は変わらない。

CFTDIの改組後も水産分野の活動のための予算措置を計画している

(4) その他

なし

6. プロジェクトの展望及び教訓・提言

提言

第2フェーズのプロジェクト方式技術協力の要請が外交ルートを通じて我が国に提出されており、その具体化の検討にあたっては、発展の方向性と、カリブ漁業開発訓練所の改組について注意が必要であろう。

発展の方向性としては、水産業の振興という上位の視点から、既存3分野の連携を深めつつ、水産資源の適切な管理による持続的利用の確立をめざすこととなるが、この場合3分野間の整合のとれたターゲットグループの生理、水産局の調査部門や普及部門、さらには海洋研究所の水産部門との連携をどのように確保するかを十分に検討しておく必要がある。

なお、広域協力の継続発展が強く望まれているところであるが、手続きの簡素化が図られる要検討が必要である。

カリブ漁業開発訓練所の改組について、既に、海事訓練部門との統合及び所管官庁の公共事業運輸省への変更が閣議決定されており、改組委員会が組織されて具体化の検討が進められている。第2フェーズの実施にあたり、省にまたがった水産施策及びプロジェクト実施体制の構築がなされることが不可欠であるが、このことに関し、改組委員会の委員長と直接意見交換をすることができた。同氏によれば、政府の施策はあくまでも国民の要望が基礎となるものであり、水産分野の施策は水産局が取りまとめることが基本、新訓練所の運営委員会（Board）には水産局からも参加する予定であり、水産局の意向は十分に反映される、

新訓練所の予算や人事はあくまでも新訓練所自信が決定する問題である、新訓練所が正式発足するまでは、現組織が有効であり、現組織の決定事項は問題なく新訓練所に引き継がれる、プロジェクト第2フェーズの検討スケジュールを正式に知らせてもらえれば改組委員会としての検討事項に加える、とのことであった。個人的な意見とは言え、改組の責任者からこのような見解を直接聞くことができたことは、非常に有益であった。今後の検討、特に短期調査や実施調査などの要所で継続して確認していくこと肝要であろう。

合同評価の結果として日ト両国に対して次の提言が出されている。

- ・日本により供与された機材の維持管理に必要な措置をとること、
- ・日本側により移転された技術の自立発展性を確保するために、可能な限りカウンターパートの安定的、継続的雇用について配慮すること、
- ・漁民、加工会社等、民間部門への技術普及が強化されるための適切な措置をとること、
- ・CFTDIの改組後も域内国への技術協力が継続されるための適切な措置をとること、
- ・CFTDIにおける漁業技術、漁船機関、水産加工分野の連携を促進し、技術及びカリキュラムの向上を継続的に行うこと、
- ・漁業技術分野が独自に、活動計画の作成、研修コースの開発を行うためのカウンターパートの

	<p>雇用を行うこと、</p> <ul style="list-style-type: none"><li>・ 水産資源管理計画に基づく、水産物の持続的水産資源利用のための適切な措置をとるとともに、CFTDIの改組は円滑に行うこと。</li></ul>
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## 2. 第7回合同調整委員会ミニッツ(英文)



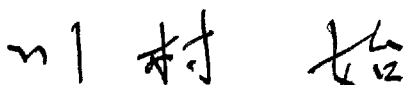
THE MINUTES OF THE SEVENTH JOINT COORDINATING MEETING  
CONCERNING  
THE TECHNICAL CO-OPERATION  
FOR  
THE REGIONAL FISHERIES TRAINING PROJECT  
IN  
THE REPUBLIC OF TRINIDAD AND TOBAGO

The Joint Evaluation Team (hereinafter referred to as the "Team") which was comprised of officials of the Japan International Cooperation Agency (hereinafter referred to as JICA) and the Ministry of Agriculture, Land & Marine Resources of the Government of Trinidad and Tobago conducted an evaluation of the Regional Fisheries Training Project in the Republic of Trinidad and Tobago (hereinafter referred to as the Project) from November 5 to November 16, 2000.

During its stay, the Team visited the project site and had a series of discussions with relevant officers concerned.

Following the discussions, both sides agreed to report to their respective Governments the matters referred to in the documents attached hereto.

Port of Spain, November 14, 2000



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Hajime Kawamura  
Evaluation Team Leader  
Japan International Cooperation Agency  
Japan



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Swallay Mohammed  
Permanent Secretary  
Ministry of Agriculture, Land and Marine  
Resources  
Republic of Trinidad and Tobago

## *The Final Evaluation Report for the Project*

### 1. INTRODUCTION

In accordance with the Record of Discussions (hereinafter referred to as "the R/D") signed on December 4, 1995, the Government of Japan and the Government of Republic of Trinidad and Tobago agreed to the implementation of the Project at the Caribbean Fisheries Training & Development Institute (hereinafter referred to as "CFTDI") for the period of five (5) years commencing April 1, 1996. The completion date is March 31, 2001.

With the remaining period of approximately 5 months, JICA dispatched The Evaluation Team to Trinidad and Tobago. The Team was further strengthened with project officials from Trinidad & Tobago authorities, referred to as the Joint Evaluation Team. The members of the Joint Evaluation team are listed at Item 2 of this document.

In order to facilitate evaluation, the joint evaluation team has developed a Project Design Matrix (hereinafter referred to as "PDM"). Since this was not prepared at the start of the Project, the Team therefore sorted out the Project activities and output through the review of past documents and discussions and agreed to utilise the PDM in the summarized Annex I.

Narrative summary of the PDM is as follows:

The overall goal of the Project:

To enhance the technical standard of training personnel and other people concerned in the fisheries sector in the Republic of Trinidad and Tobago and other regional countries.

The Project purpose

To enhance the capability of human resources in the fisheries sector through the improvement of technologies and training programmes at CFTDI.

Output:

1. Fishing techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI.
2. Engine maintenance techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI.
3. Processing and quality control techniques suitable and extendable for the regional fisheries are to be accumulated and the expertise of the training personnel of CFTDI.

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### Activities:

#### 1. Fishing technology

1-1. survey of coastal fishing gear and methods

1-2. introducing appropriate coastal Fishing technology

1-3. conducting theoretical and practical training for the training personnel of CFTDI

#### 2. Marine engineering

2-1. survey of hull and engine of coastal fishing vessel

2-2. conducting theoretical and practical training for the training personnel of CFTDI

#### 3. Fish processing and quality control

3-1. survey of fish handling, fish processing and quality control

3-2. conducting theoretical and practical training for the training personnel of CFTDI

3-3. introducing appropriate fish handling, fish processing and quality control of fishery products

4. The training programs of CFTDI in the fields mentioned above are to be reinforced through the following activities:

4-1. Developing/Improving the CFTDI training curriculum and textbooks, and

4-2. Conducting training courses at CFTDI in the fields mentioned above

## 2. JOINT EVALUATION TEAM MEMBERS

### 2-1. Japanese Side

Mr. Hajime Kawamura  
Leader

Division Director of Fisheries and Environment  
Japan International Cooperation Agency (JICA)

Dr. Tatsuro Matsuoka  
Fishing Technology

Professor  
Kagoshima University of Fisheries and Management

Dr. Masato Hamaguchi  
Marine Engineering

Professor  
National Fisheries University

### *The Final Evaluation Report for the Project*

Dr. Haruka Iida  
Food Processing

Chief  
Coastal Fisheries Promotion Section  
Coastal Fisheries and Aquaculture Division  
National Research Institute of Fisheries Science

Mr. Ikuo Takekawa  
Project Officer

Staff, Fisheries and Cooperation Division  
Forestry & Environment Cooperation Department  
Japan International Cooperation Agency (JICA)

#### 2-2. Trinidad and Tobago Side

Mr. Carlisle Jordan  
Director of Fisheries

Director of Fisheries  
Fisheries Division, Ministry of Agriculture, Land & Marine Resources

Mr. Selwyn Brooks  
Acting Principal

Principal (Ag.), Caribbean Fisheries Training & Development Institute

Ms. Jennifer Yearwood  
Assistant Director

Assistant Director, Programmes & Projects, Agriculture Planning Division, Ministry of Agriculture, Land & Marine Resources, St Clair

Mr. Farook Hosein  
Ag. Project Analyst

Ag. Project Analyst II, Agricultural Planning Division, Ministry of Agriculture, Land and Marine Resources, St. Clair

### 3. OBJECTIVES OF THE EVALUATION

It is evaluation of the Project which started in 1996 and its activities will be undertaken in this document from five points of view, namely, efficiency of the Project, effectiveness of the objectives, impacts of the Project, relevance of planning and sustainability of the Project according to the Project Cycle Management method, and make recommendations to ensure sustainable development of the Project outcome.

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### 4. METHODOLOGY OF EVALUATION

#### 4-1. Survey

The Project was evaluated jointly by the Japanese and Trinidad and Tobago sides through interviews, reports and questionnaires from Japanese long-term experts, counterparts and the ex-trainees from other countries.

#### 4-2. Items of the evaluation

##### 4-2-1. Accomplishment of the Project

Accomplishment of the Project was measured in terms of inputs, activities, outputs and Project purpose, all of which in accordance with the R/D, Tentative Schedule for Implementation (TSI) and PDM.

##### 4-2-2. Effectiveness

Effectiveness was assessed by evaluating the extent to which the Project has achieved outputs and the project purpose.

##### 4-2-3. Impact

Impact of the Project activities was identified as positive and negative changes produced by the Project directly and indirectly (including unexpected changes).

##### 4-2-4. Efficiency

Efficiency of the Project implementation was analyzed focusing on the relationship between outputs and inputs in terms of training, quantity, and linkage with other co-operation scheme of JICA and other organisations.

##### 4-2-5. Relevance

Relevance of the Project was reviewed as the validity of the Project purpose and overall goal in connection with the development policy of the Government of the Republic of Trinidad and Tobago and needs of the beneficiaries.

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### 4-2-6. Sustainability

Sustainability of the Project was focused on organisational, financial and technical aspects by examining the extent to which the achievement of the Project is sustained or expanded after the assistance is completed.

## 5. RESULT OF EVALUATION

### 5-1. Accomplishment of the Project as of November 13, 2000.

The Evaluation Team received the progress report attached as Annex II. The summary of Achievement with Respect to Inputs and Activities are described below. Refer to Annex II for details.

#### 5-1-1. Achievement with Respect to Inputs from the Government of Japan & Trinidad & Tobago

##### (1) Measures taken by the Government of the Republic of Trinidad and Tobago

- 1) The necessary Land, Building and Facilities of the Project have been provided in line with Annex VI of the R/D.
- 2) Allocation of counterparts and other personnel  
During the co-operation period, nine (9) counterparts personnel were allocated.
- 3) Allocation of expenditure  
Approximately 30 million US\$ (TT\$187million) was allocated to CFTDI for five (5) years.

##### (2) Co-operation by the Government of Japan

- 1) Dispatch of Experts
  - (a) A total of eight (8) Long-term Experts were dispatched.
  - (b) Eighteen (18) Short-term Experts in three fields were dispatched.
- 2) Provision of machinery and equipment  
Approximately 168 million yen (TT\$8.4million) (TT\$1 = \$20Yen) was allocated for five (5) years.
- 3) Counterpart training in Japan  
A total of thirteen (13) counterparts and the persons concerned have been trained and the two (2) more persons concerned will be trained before the termination of the Project.
- 4) Local expenditure
  - (a) Approximately 24 million yen (TT\$1.2million) was allocated for construction of the new facility for marine engine practice.



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(b) Approximately 62 million yen (TT\$13.1million) was allocated for Regional Technical Co-operation Promotion Programme for five (5) years.

(c) Approximately 31 million yen (TT\$1.55million) was allocated for necessary expenses for the Project activities for five (5) years.

### 5-1-2. Accomplishment of activities

The details of accomplishment of activities are presented in the progress report attached as ANNEX II. Only a summary of the activities are mentioned in this report.

1. Survey of fisheries conditions
2. Fishing technology
  - 2.1. Vertical longline
  - 2.2. Trolling line
  - 2.3. Pelagic long line
  - 2.4. Bottom long line
  - 2.5. Fish aggregation devices (FAD's)
  - 2.6. Pot fishing
  - 2.7. Set net
  - 2.8. Squid resources survey
3. Marine engineering
  - 3.1. Outboard engine maintenance
  - 3.2. Diesel engine maintenance
  - 3.3. Hydraulic equipment
  - 3.4. Set-up of workshop
  - 3.5. Diesel outboard engine maintenance
  - 3.6. Marine electronics
  - 3.7. Refrigeration equipment
  - 3.8. FRP Fishing boat maintenance
4. Fish processing
  - 4.1. Fish handling techniques
  - 4.2. Processing techniques (salting, drying, smoking)
  - 4.3. Freezing preservation
  - 4.4. Comminuted products
  - 4.5. Fermented products

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- 4.6. HACCP quality control
- 4.7. High quality preservation techniques
- 4.8. Instruction techniques & Extension methodology
- 4.9. Quality measuring equipment
- 4.10. Designing of HACCP plants
- 4.11. Plant inspection & evaluation exercise

### 5-1-3. Accomplishment of outputs

The summaries of the output for the four activity fields are presented as follows:

- 1) Fishing techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI. (Output 1 on PDM)
- 2) Engine maintenance techniques suitable and extendable for the regional fisheries are to be accumulated and the expertise of the training personnel of CFTDI. (Output 2 on PDM)
- 3) Processing and quality control techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI. (Output 3 on PDM)
- 4) The curricula, textbooks and syllabus mentioned above criteria 1 to 3 are developed and improved. (Output 4 on PDM)

## 6. ANALYSIS ON EVALUATION ISSUES

### 6-1. Efficiency of the Project

The efficiency of the Project is evaluated to be somewhat below expectations.

In all the fields, a variety of training courses were conducted by the long-term experts and counterparts and, consequently, technical extension to fishermen and fishery personnel in the region was efficiently executed.

The appointment of counterparts was not consistent with what was agreed upon in the R/D. In the field of Fishing Technology, no counterpart who is qualified to be recognised as a senior lecturer at CFTDI was appointed, therefore, uncertainty remains against implementation of higher level training courses, formation of teaching staff members and development of training curricula after the re-organisation of CFTDI. In addition, one of the counterparts in Fishing Technology who gained counterpart-training in Japan returned to his original employment. In Marine Engineering, allocation of counterparts scheduled at the initial stage of the Project was delayed for approximately two years, therefore, training was inefficiently duplicated.

The mission period of short-term experts and counterpart training were both short in some cases and, consequently, technical transfer was confined at basic levels.

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### 6-2. Effectiveness of the Project

The effectiveness of the Project is evaluated high, since the achievements are consistent with what was agreed upon in the R/D.

#### 6-2-1. Objectives of the Project

The effectiveness of the Project, enhancement of the technical quality of training courses at CFTDI and strengthening of the capability of CFTDI to produce manpower in fisheries are highly evaluated.

##### a. Enhancement of teaching capability of counterparts

In all the three fields, the counterparts have gained new knowledge and techniques. The counterparts played an important role as assistant instructors in the training courses conducted by the long-term experts and carried out training courses by themselves. The counterparts have demonstrated that they have been adequately trained as instructors, since the ex-participants of the RTCPP have requested additional training, as they were satisfied with the delivery of the training.

##### b. Strengthening of activities and capability of CFTDI

In all the fields, some techniques transferred to the counterparts are accepted in the commercial enterprises, therefore, it is evaluated that appropriate techniques suitable to local needs have been transferred.

On the basis of the transferred techniques, training courses and workshops have been actively conducted. The counterparts were also sent to technical training courses in other countries in the region according to the Regional Technical Co-operation Promotion Programme of JICA. The Joint Evaluation Team is of the view that the capability of CFTDI has been strengthened.

##### c. Development of training curricula and teaching materials

The transferred knowledge and techniques are being compiled in training curriculum and textbooks. This is scheduled to be completed within the Project period, therefore, the training curricula and teaching materials at CFTDI have been evaluated to be enriched by the Project activities.

##### d. Execution of higher-level training courses

A large number of training courses and workshops have been conducted in comparison to those prior to the Project and the contents have been diversified. Therefore, the Joint Evaluation Team is of the view that CFTDI is now capable to conduct training courses at higher levels.

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### 6-2-2. Over-all goal

In both Trinidad and Tobago and other countries in the region, some of the transferred techniques are accepted in the private sector to a certain extent, though the situation is different from country to country and, consequently, it is evaluated that the over-all goal of the Project and the enhancement of technical capability of fishery personnel in Trinidad and Tobago and the countries in the Region have been achieved in part.

### 6-3. Impact of the Project

The impact of the Project is highly evaluated.

It is recognised that some of the newly introduced techniques are being accepted by fishermen and private enterprises, such as vertical longline in the Fishing Technology field, out-board diesel engine in Marine Engineering and production of *satsumaage* in Fish Processing. Those technologies are accumulated not only in CFTDI but also locally and regionally. Although some negative impacts are likely to appear in fisheries development, an increasing effort is being made at CFTDI to overcome potential problems, such that utilisation of bycatch fish is tested to reduce discards. In addition, the extended activities such as Regional Technical Co-operation Promotion Programme contribute to raise public awareness of CFTDI as the training institute in regional countries.

### 6-4. Relevance of planning

The relevance of the Project planning is evaluated to be relatively high.

In accordance with the decision by the Cabinet, for the enhancement of man-power development in fisheries even after the re-organisation of CFTDI, the overall goal, or enhancement of technical capability of fishery personnel in Trinidad and Tobago and the countries in the Region is maintained as an important matter. The Project objective, or strengthening of the capability of CFTDI to produce man-power in fisheries remains also effective at this point of time, since the CFTDI is the only fishery training organisation in the region.

### 6-5. Sustainability of the Project

The over-all sustainability of the Project contains some unstable factors, though this may differ from field to field.

#### 6-5-1. Technical sustainability

The technical sustainability is evaluated to be slightly low. Although technical transfer to the counterparts are achieved fairly adequately, unstable factors are observed from the following views;

### *The Final Evaluation Report for the Project*

- a. The existing qualification of the counterparts in Fishing Technology does not equip them to be senior instructors as required by the R/D. However, they are so far quite capable of delivering training within their scope of operation, however the technical sustainability would be dependent on personnel with academic qualifications being recruited.
- b. The counterparts in Marine Engineering are capable of instructing in most areas, however it has been recognized in some technical areas (freezing, electric and hydraulic engineering) more training is required..
- c. Technical sustainability has been affected by inadequate procurement procedures and the maintenance of machinery and equipment, especially in the area of Fish Processing. Machinery and equipment must be put in place to resolve this problem.

#### 6-5-2. Institutional sustainability

The institutional sustainability is unpredictable.

a. Re-organisation of CFTDI has been decided to be mandated by the Ministry of Works and Transport. However, a Board of Management will be responsible for the future of the Institute where fishery-related activities are also conducted. The interim board will focus on both the long-term and short-term strategies for the sustainable development of the fishery sector, while the Ministry of Agriculture, Land and Marine Resources and Ministry of Works and Transport will collaborate to ensure the achievement of this goal.

b. Co-operation with Fisheries Division and non-governmental organisations as required to strengthen the CFTDI has been found to be inadequate.

#### 6-5-3. Financial sustainability

The financial sustainability is evaluated to be relatively high.

- a. The importance of the fisheries sub-sector continues and, consequently, strengthening of manpower development has been endorsed by the Cabinet through the establishment of MAFITT.
- b. The interim board plans budgetary measures for the fishery-related fields of CFTDI after its re-organisation. The Team recognises the responsibility of the newly mandated Ministry after the re-organisation remains a matter to be resolved.

## *The Final Evaluation Report for the Project*

### 7. CONCLUSION AND RECOMMENDATIONS

#### 7-1 Conclusion

It is evaluated that the Project has been faithfully implemented to improve the training capabilities of CFTDI. Consequently, various accomplishments have been recognised, although there remains some uncertainty on sustainable employment of counterparts in accordance with re-organisation of CFTDI. Although some negative impacts are likely to appear in fisheries development, increasing efforts are being made at CFTDI to overcome potential problems, such that utilisation of bycatch fish is tested to reduce discards. The Government of the Republic of Trinidad and Tobago also has recognised the imperative of strengthening management of fishery resources and requested the Government of Japan to launch a new project.

Accordingly, it is a reasonable conclusion that the respective Governments should start to study the detail contents of the new project in order to ensure smooth transition from on-going project to new one after the Project's termination.

#### 7-2. Recommendations

1. Appropriate measures should be taken to continue sound maintenance of the facilities and equipment donated by Japan;
2. In order to assure the sustainability of the transferred technology, stable and continuous employment of the counterparts should be taken into consideration as much as possible;
3. Appropriate measures should be taken to strengthen technical extension to the private sector including fishermen and processors;
4. Appropriate measures should be taken to continue technical transfer programmes to the countries in the region after re-organisation of CFTDI;
5. Integrated collaboration among Fishing Technology, Marine Engineering and Fish Processing fields at CFTDI should be strengthened towards continuous renewal of techniques and improvement of the curricula;

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6. In the area of Fishing Technology greater autonomy, within the context of the work plan, must be given for initiatives to be taken on the part of the counterparts in the development of courses and practical sessions.

7. Appropriate measures should be taken towards sustainable utilization of fishery resources in accordance with orientation of fisheries to resource management; and CFTDI should be re-organized smoothly, while strengthening co-operation with relevant organisations.

GM  
JK

## Project Design Matrix (PDM)

Project title: THE REGIONAL FISHERIES TRAINING PROJECT IN THE REPUBLIC OF TRINIDAD AND TOBAGO

Project site: Caribbean Fisheries Training Institute (CFTDI) Target Group: Instructors of the CFTDI

Duration; Apr. 1<sup>st</sup>, 1996~Mar. 31<sup>st</sup>, 2001Date: November 14<sup>th</sup>, 2000.

Narrative Summary	Objective Verifiable Indicators	Achievements	Important Assumptions
<b>Overall Goal</b> To enhance the technical standard of training personnel and other people concerned in the fisheries sector in the Republic of Trinidad and Tobago and other regional countries.	(Not established at the time of planning)	(Not established at the time of planning)	(Not established at the time of planning)
<b>Project Purpose</b> To enhance the contents of the training program at CFTDI.	(Not established at the time of planning)	(Not established at the time of planning)	(Not established at the time of planning)
<b>Outputs</b> 1. Fishing techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI.  2. Engine maintenance techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI.  3. Processing and quality control techniques suitable and extendable for the regional fishery are to be accumulated and the expertise of the training personnel of CFTDI.  4. The curriculum, textbooks and syllabus mentioned above Items 1 to 3 are developed and improved.	1. Increased number of training courses and trained personnel and improved and upgraded syllabus and curricula in Fishing Technology, Marine Engineering and Fish Processing. (no specific targets were included under the R/D).  2. Increased number of training courses and trained personnel and improved and upgraded syllabus and curricula in Fishing Technology, Marine Engineering and Fish Processing. (no specific targets were included under the R/D).  3. Increased number of training courses and trained personnel and improved and upgraded syllabus and curricula in Fishing Technology, Marine Engineering and Fish Processing. (no specific targets were included under the R/D).  4. Completed textbooks and syllabus over the period.	Refer to ANNEX II	1. The implementation mechanism for seminars is enforced.  2. CFTDI can obtain enough budgets.  3. The provided equipment and machinery are appropriately maintained.  4. The trained counterparts are continually assigned.



Narrative Summary	Objective Verifiable Indicators	Achievements	Important Assumptions
<p><b>Inputs</b>                      Japanese side : Refer to ANNEX II</p> <p>1. Dispatch of Japanese experts:                      (1) Long-term experts:</p> <p>(2) Short-term experts:</p> <p>2. Counterpart training in Japan</p> <p>3. Provision of machinery, equipment and materials.</p> <p>4. Budget allocation for construction marine engineering practices</p> <p>5. Allowance cost for outreach activities</p>	<p>1. Dispatch of Japanese experts                      (1) Long-term experts                      1) Team Leader 60M/M                      2) Coordinator 60M/M                      3) Fishing Technology 60M/M                      4) Marine Engineering 60M/M                      5) Fish Processing 60M/M</p> <p>(2) Short-term experts:                      Approximately 2 to 3 experts are dispatched Every year.</p> <p>2. Counterpart training in Japan                      Approximately 2 to 3 counterparts are trained in Japan every year.</p> <p>3. Provision of machinery, equipment and materials                      Necessary machinery, equipment and Materials be provided</p> <p>4. Budget for construction marine engineering practices is allocated</p> <p>5. Allocation for the necessary activities of the Project</p>	<p>1. Dispatch of Japanese experts                      (1) Long-term experts                      1) Team Leader 60M/M                      2) Coordinator 60M/M                      3) Fishing Technology 60M/M                      4) Marine Engineering 60M/M                      5) Fish Processing 60M/M</p> <p>(2) Short-term experts:                      Total 18 experts were dispatched.</p> <p>2. Counterpart training in Japan                      Total 18 counterparts were dispatched</p> <p>3. Provision of machinery, equipment and materials                      Total approximately 168 million yen was allocated to provide above matter.</p> <p>4. Budget allocation for construction marine engineering practices                      Approximately 30 million Yen was allocated.</p> <p>5. Allocation for the necessary activities                      Total approximately 117 million yen was allocated.                      1) Observation tour                      2) Project implementation and management cost                      3) Regional Technical Cooperation Promotion Project                      4) Construction work for Engine Training Facilities                      5) Extension Work Program</p>	<p><b>Pre-conditions</b></p> <p>1. CFTDI assigns appropriate and enough numbers of counterpart in each field.</p> <p>2. The role and organism of CFTDI is not drastically changed.</p>

Narrative Summary	Objective Verifiable Indicators	Achievements	Important Assumptions
<p>Trinidad and Tobago side :</p> <p>1. Appointment of counterpart personnel</p>       <p>2. Land, building and facilities</p>	<p>Trinidad and Tobago side :</p> <p>1. Appointment of counterpart personnel  More than two (2) counterparts are appointed in each field</p> <p>1) Administrator 120M/M</p> <p>2) Fishing technology 120M/M</p> <p>3) Marine engineering 120M/M</p> <p>4) Fish processing 120M/M</p> <p>2. Land, building and facilities  In accordance with R/D Annex VI.</p>	<p>Trinidad and Tobago side :</p> <p>1. Counterpart Personnel: Total 9 persons were appointed.</p> <p>1) Administrator 120M/M</p> <p>2) Fishing technology 98M/M</p> <p>3) Marine engineering 130M/M</p> <p>4) Fish processing 99M/M</p> <p>2. Facility and equipment  Land, building and facilities were allocated in accordance with R/D Annex VI</p>	


### 3 . プロGRESS・REPORT (英文)



**REGIONAL FISHERIES TRAINING PROJECT**  
**A TECHNICAL COOPERATION PROJECT BETWEEN**  
**THE GOVERNMENT OF TRINIDAD & TOBAGO AND**  
**THE GOVERNMENT OF JAPAN**

**PROGRESS REPORT**

**Executing Agencies:**

Ministry of Agriculture, Land & Marine Resources  
(Caribbean Fisheries Training & Development Institute)

Japan International Cooperation Agency

**Duration:**

April 01, 1996 – March 31, 2001

**Project Site:**

Caribbean Fisheries Training & Development Institute  
Chaguaramas  
Trinidad & Tobago

November 10, 2000

**REPORT ON ACTIVITIES OF PROJECT (PHASE I) OVER THE  
PERIOD APRIL 01 1996 – OCTOBER 31, 2000**  
by the Regional Fisheries Training Project

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**PROJECT NAME:** REGIONAL FISHERIES TRAINING PROJECT

**EXECUTING AGENCY:** Japan International Cooperation Agency (JICA)

**PERIOD OF PROJECT:** April 1996 to March 2001

**OBJECTIVE MISSION:** To enhance the technical standard of fisheries training personnel at the Caribbean Fisheries Training & Development Institute (CFTDI) and other persons in the Fisheries sector in the Republic of Trinidad and Tobago and other Regional countries.

**AUTHORITY:** The Republic of Trinidad and Tobago and the Government of Japan, signatories to a document referred to as a Record of Discussions dated December 04, 1995 outlining the conditions of implementation of the Project by a Japanese team of experts from JICA.

**COMMENCEMENT DATE:** APRIL 01 1996

**COMPLETION DATE:** MARCH 31, 2001

**DURATION OF PROJECT:** Five (5) years.

## **LIST OF MEMBERS OF THE REGIONAL FISHERIES TRAINING PROJECT**

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### **JAPANESE EXPERTS**

Mr. Kazuo Senga	-	Team Leader
Mr. Masaru Honda	-	Project Co-ordinator
Mr. Hideo Kimura	-	Expert, Marine Engineering
Mr. Fusao Takigami	-	Expert, Fish Processing
Mr. Motoki Fujii	-	Expert, Fishing Technology

### **COUNTERPARTS**

Mr. Carlisle M. Jordan	-	Counterpart to Team Leader
Mr. Selwyn Brooks	-	Counterpart to Project Co-ordinator
Mr. Joseph James	-	Counterpart, Fishing Technology
Mr. Llewellyn Ellis	-	Counterpart, Fishing Technology
Mr. Charles Nurse	-	Counterpart, Fish Processing
Ms. Muriel Quamina	-	Counterpart, Fish Processing
Mr. David Robinson	-	Counterpart, Marine Engineering
Mr. Rooplal Dowlal	-	Counterpart, Marine Engineering
Mr. Pooran Moham	-	Counterpart, Marine Engineering

## **FISHING TECHNOLOGY**

### **1. Vertical Longline Fishing**

This fishing method was introduced by Mr. Kazuo Senga, the long-term expert for the purpose of training/educating fishermen in the region to consider the exploitation of deep water demersal fish stock.

The training programme which comprises the technology transfer to the counterparts, exploratory fishing and workshop for the fishermen were carried out seventeen (17) times and two hundred and twenty-four (224) persons in the region including Trinidad and Tobago benefited from this programme.

### **2. Trolling**

Mr. Ichiro Usuda, the short-term expert was dispatched from January 19 to March 3, 1997. Mr. Usuda extended technical guidance to the counterparts, CFTDI personnel, staff of the Fisheries Division in Tobago and fishermen, on the essential factors of the trolling method and the practical use of different types of trolling gear.

Seventy-eight (78) persons benefited through the conduct of three (3) workshops by Mr. Usuda. These participants have acquired the basics of Japanese Trolling technology, which are applicable to local conditions.

### **3. Pelagic Longline Fishing**

The survey on the distribution of large pelagic species at the fishing grounds off Tobago and the technology transfer programme comprised lecture, gear construction practice and exploratory fishing were conducted by Mr. Kazuo Senga and his successor Mr. Motoki Fujii for 8 times and 49 people benefited from this programme.

As a result of exploratory fishing, it is presumed that sword fish and black fin tuna are abundant along the edge of the continental shelf NW off Tobago however, the volume and size of yellow fin as well as big eye tuna migrating off Tobago are comparatively small.

### **4. Bottom Longline Fishing**

The improvement of bottom longline fishing gear and method to be introduced to the fishermen was conducted by Mr. Kazuo Senga, the long-term expert. This assignment



was taken over by his successor Mr. Motoki Fujii with special emphasis on the development of deep sea bottom longline using the hydraulic reel.

In addition, Dr. Tatsuro Matsuoka, Professor, Faculty of Fisheries, Kagoshima University was assigned to the Project as a Short-term Expert from February 14 to March 24, 1998 to conduct a special technology transfer program to the counterparts and CFTDI personnel on the integrative process of experiments related to the "Selectivity of Fishing Gear" using bottom longline and fish trawl as subject matters.

Dr. Matsuoka also conducted the Seminar on Fishing Technology for Management of Capture Fisheries: Selective Fishing Gear and Responsible Fisheries to the counterparts and selected fisheries personnel. Two hundred and fifteen (215) persons benefited from this training program which was conducted on twenty (20) occasions.

#### 5. Fish Aggregating Devices (FAD's)

In addition to the intensive technology transfer to the counterpart personnel, a workshop which comprised lecture on construction of FAD, using locally available materials such as bamboo, oil drums and old tyres and also the practical setting at sea was conducted on five (5) occasions for the fishermen in Tobago by Mr. Motoki Fujii, the long-term expert.

The workshop helped to open the minds of participants to understand the importance of resource management through the establishment of fishing grounds artificially, using FAD's. Seventy-two (72) persons benefited from this training program.

#### 6. Pot Fishing

Technology transfer to the counterpart and CFTDI personnel was conducted by Mr. Motoki Fujii, the long term expert, with special focus on the adaptability to the local conditions of several types of pot which are commercially operated in Japan. Mr. Fujii was also assigned to the Fisheries Monitoring and Advisory Committee of the Ministry of Agriculture, Land and Marine Resources as a lecturer to introduce the Deep Sea Shrimp Pot Fishery used in Japan.

#### 7. Set Net Fishing

Mr. Ritsuo Morimitsu, the short term expert was dispatched twice from February 4 to May 3, 1999 and September 20 to November 19, 1999 for this particular subject.

Two types of small scale set net “Masu-ami” and “Choko-ami” were selected for the technology transfer programme to the counterparts. Counterparts and CFTDI personnel acquired the basics of set net fishing gear and method through practical training such as the design and construction of gear, actual placement of gear in a selected bay and practical fishing operation.

Mr. Motoki Fujii, a long term expert and his counterparts launched the improvement of “Masu-ami” and the experimental fishing operation has been conducted on a regular basis using the new pirogue “WENDY”, this pirogue was locally constructed and donated by JICA for the Project.

Since the set net is an ideal fishing method from a resource management view point and would be contributing to the organization of fishery cooperative societies and community development, there is great expectation of its extension to the region in the future. The training programme was conducted nine (9) times and forty-three (43) persons benefited from this training.

#### 8. Exploratory Fishing for Squid

Mr. Motoki Fujii, the long term expert and Mr. Ritsuo Morimitsu, the short-term expert launched the exploratory fishing to obtain data on the distribution of Diamondback Squid. Moreover, Mr. Yoshio Ishiwata was dispatched from May 13 to June 26, 2000 to introduce Japanese Squid Angling to the counterparts and CFTDI personnel. Through these activities, counterparts and CFTDI personnel have acquired the basic technology on squid fishing.

As a result of the exploratory fishing, the first Diamondback Squid (*Thysanoteuthis rhombus*) was caught in Grenadian waters on April 14, 1999 and the second one was caught northwest off Tobago on October 13, 2000. 715 Flying Squid (*Ommastrephes pteropus*) were also caught using several types of gear during the exploratory fishing period.

#### 9. Trawl Fishing

Although this subject is not planned in the Implementation Schedule of the Project, but, because of the urgent need to let the counterparts and CFTDI personnel acquire the appropriate technology on trawl fishing, the training course which comprised the lecture on basic computations for gear construction, model net making, construction of fish trawl net and trials of fish trawl net constructed by participants was conducted seven (7) times with fifty-four (54) participants by Mr. Kazuo Senga, the long term expert.

## MARINE ENGINEERING

### 1. Gasoline Outboard Motors Maintenance

The activities of this programme are characterised by the implementation of community-based training, also called mobile training course which is beneficial for both counterparts and fish folks. Forty-four (44) training courses involving five hundred and fifty nine (559) participants which comprised fishermen, fisheries officers and instructors of vocational schools was conducted at the CFTDI, community and region levels. Needless to say, through these training courses the counterparts acquired teaching skills and experience.

From January 19 to March 15, 1997, Mr. Akira Muromoto, short-term expert was dispatched to the Project and conducted the training course on the “operation and maintenance of gasoline outboard motors” to the counterparts and CFTDI personnel.

Taking the high demand for technology transfer to the community and institution into consideration, the period was extended to March 2001 under the agreement of the Joint Co-ordinating Committee Meeting which was held in September 1998.

### 2. Diesel Engine Maintenance

Mr. Noboru Iwano, the short-term expert was dispatched to the Project from November 08 to 23, 1997 and conducted the training course on Diesel Engine Maintenance to the counterparts and CFTDI personnel. Subsequently, Mr. Hideo Kimura, the long-term expert conducted the same training course and fifty seven (57) persons benefited from this programme.

The programme was scheduled for completion by September 1999, however, the period was extended to March 2001 by the agreement made at the Meeting of the Joint Co-ordinating Committee in September 1998.

### 3. Hydraulic Equipment Maintenance

The technology transfer programme on “Hydraulic Equipment Maintenance” was conducted in August 1997 by Mr. Hideo Kimura, long-term expert. Since this programme

was conducted before the assignment of the other junior counterpart and the senior counterpart this programme will be repeated before the completion of the Project.

#### 4. Construction of Marine Engineering Building

The practical training sessions in Marine Engineering were previously conducted in the Net Shed. However, this building provided fish processing facilities; classrooms, offices as well as a storage area, there were certain environmental disadvantages such as “noise”, “air”, and “ground pollution” which affected the Marine Engineering training activities.

Taking this situation into consideration, and to effect improvement as part of the on-going Regional Fisheries Training Project, JICA approved approximately TT\$1.2M for the construction of a new building for the sole use of Marine Engineering activities. Its construction commenced on April 06, 1999 and the building was completed on September 22, 1999.

Mr. Kazuhiko Doi, short-term expert was dispatched to the Project from January 28 to March 19, 1999 to ensure the smooth preparation of all documentation for the construction. He was dispatched again from August 07 to September 10, 1999 for the final inspection of the building.

This up-graded facility has been contributing to the effective implementation of high quality training for the people of Trinidad and Tobago and the OECS countries.

#### 5. Diesel Outboard Motors Maintenance

The technology transfer was conducted by Mr. Noboru Iwano, short-term expert while he was assigned to the Project from November 08 – 23, 1997 for the execution of the training course on “Diesel Engine Maintenance” to the counterparts and CFTDI personnel. Subsequently, this program was applied by Mr. Hideo Kimura, long-term expert to both training courses in Trinidad and Tobago and the RTCPP.

For the purpose of introducing the efficiency of diesel outboard engine to the participants of RTCPP, one of the engines provided by JICA has been engaged in practical use for the set net fishing operation by the Fishing Technology Unit. This was conducted on six (6) occasions and fifty-three (53) persons benefited.

## 6. Electricity for Marine Use

Mr. Yasutomo Iura, short-term expert was dispatched to the Project from January 16 to February 08, 1999; he conducted the training course on "Electricity for Marine Use". Counterparts, CFTDI personnel as well as the engineers from Coast Guard have acquired the principles, structures and practical use of AC generator, main and emergency switchboard, transformer etc.

## 7. Maintenance of Refrigeration System

Mr. Shigetoshi Iwakiri, the short-term expert was dispatched from August 7 to 27, 1999 and he conducted the training course on Maintenance on Refrigeration System both on general theory and the technical operation of the equipment.

In order to achieve the widest dissemination of this subject, the Project informed OECS countries about our guidelines of the technical transfer of this course. Five (5) persons attended from four (4) countries in the region bearing all their expenses which reflected the high interest in this program.

The refrigeration simulator donated by JICA through its equipment supply program was fully utilized and was useful to increase the participants' interests and knowledge.

Later on, the refrigeration system which was formerly used at Kanagawa International Fisheries Training Center of JICA was established in the new Marine Engineering Building. The teaching equipment/material of this course was thus further enhanced.

## 8. FRP Fishing Boat Maintenance

Mr. Hideo Kimura, the long-term expert, conducted a course on basic handling on FRP fishing boat for the counterparts, CFTDI personnel and RTCPP participants. Through the construction of FRP ice box, participants were able to understand the technology of a minor repair of a vessel's hull. Three (3) courses have been conducted up to the present time with a total of twenty one (21) participants.

From November 9 to 27, 2000, Mr. Seiji Aoki, short-term expert will be dispatched to conduct the intensive training course on technology for repairing the FRP vessel.

## FISH PROCESSING

### 1. Fish Handling Technology

Mr. Fusao Takigami, long-term expert, conducted the undermentioned technology transfer to the counterparts and Fish Processing Unit personnel.

#### 1) Practical on Salting and Smoking of Fish

The expert and counterparts conducted trials in the salting of moonshine in order to prepare Ichiyaboshi and as a follow-up, utilised the tabac and plateau (two other under utilised species) for this process. Ichiyabashi is a brine salted and partially dried product of Japan. Both the brine salting and drying are conducted for relatively short periods. The product therefore has a low salt content and high moisture and as a result a short shelf-life. The Ichiyabashi prepared using plateau and tabac were well received by the majority of samplers.

Moonshine is a very flat fish with rather large bones. Considering the eating habits of locals, it is a rather difficult fish to eat, which is hardly used with little consumer demand. As a follow-up, other experiments were done with other under utilised fish to increase consumer demand such as Platto (*Chloroscombrus chrysurus*) fish paste etc.

#### 2) Practical on Packaging

The receipt of the vacuum packaging machine enabled the counterparts and staff to extend the shelf-life of oxygen sensitive products they have mastered the art of packaging the product using this machine and are quite capable of maintaining it.

#### 3) Present Condition of Fisheries in Japan

An introduction to Japanese Fisheries was done using videotapes. With this video introduction, the counterpart's and staff views were widened and they obtained a better understanding of Japanese Fishing Industries.

#### 4) Introduction of Marine Processed Products

Japanese marine processed products, their processing methods, their characteristics, and cooking methods were all explained. Afterwards, there was a sampling of the products. By this means, the counterparts and staff understood the diversity of the products and their

knowledge of marine products was broadened. Furthermore, it was a good opportunity to assess their taste preferences.

#### 5) Trial of New Product using Fresh Tuna

Applying the method of making Sweden's Gravlax a Swedish Salmon dish, trial manufacturing was done using fresh tuna fish. The trial product had a very good taste and was well received by the participants.

As fresh fish is the essential ingredient of this product, its quality depends on the freshness of the fish. Therefore it requires the same quality of tuna fish which is used for "sashimi" (sliced fresh tuna – Japanese delicacy).

Local spices can be used for seasoning which are suitable for local tastes. The counterparts and staff showed great interest in this product and mastered the method of making it as well.

#### 6) Trial of New Products

Please refer to the report on salted dried fish at paragraph 1 above.

#### 7) The Processing of Frozen Large Pelagics

The acquisition of a larger (more appropriate) mechanical saw through the project allowed the counterparts and staff to process large pelagics (sharks, sailfish, tuna etc.) more effectively.

#### 8) Handling and processing of Squid

A lecture was presented on the different species of the squid family, their anatomical characteristics, and the handling method of Japanese squid products.

A lecture and practical training were also conducted on squid processing methods as well as the various uses of squid in Japan. The processing of smoked squids was also demonstrated and conducted. These acquired skills were put into use when there was the catch of squids by the training vessel, *MV Provider* were processed in March 2000 into the making of squid products including salted squid guts.

## 9) Handling of Shrimp

A lecture and practical training were conducted on shrimp handling in accordance with the Japanese fisheries manufacturing guidelines. The counterparts and staff were appraised of handling methods of frozen shrimps both with and without heads according to international standards.

## 10) Grading of Marine Products

A lecture was conducted on grading and sizing of marine products. Apart from standard international grading such as for shrimp, the counterparts and staff were informed that there were other standards set for individual marine products.

## 11) Handling of Commercially Harvested Tuna

The expert and counterparts discussed the benefits of the various handling procedures and the effect on the maintenance of quality. This session served to enhance the participants knowledge on the handling of tuna.

## 2. Freezing and Chilling

Mr. Fusao Takigami conducted lectures to the counterparts on the subjects in the undermentioned paragraphs.

### 1. Freezing and Chilling Methods

He lectured on the theory of the freezing machine (a freezer), the various ways of freezing and the method of freezing marine products.

### 2. "SURIMI" (Fish Paste Products)

The "SURIMI" technology component was delivered by Dr. Yoshio Kaminishi, the short term Expert dispatched to the Project from November 22 to December 21, 1998. The components on this technology addressed the principles of processing procedures and product evaluation.

It also addressed the preparation of added value product such as "KAMABOKO" produced from "SURIMI" using under utilised species of fish for the raw material. His



technical guidance was extended not only to the counterparts and Fish Processing Unit personnel but also the participants of RTCPP.

### 3. Fermented Fish products

During February 11 to March 5, 2000, Dr. Yasuhiro Funatsu, Short term expert was dispatched to Trinidad and Tobago and he conducted a course on the utilization of fish discards to produce fish sauce through fermentation. After departure of this expert, practical training was conducted in May and June 2000 on the preparation of fish sauce which has resulted in 6-10 months fermentation now in progress.

### 4. HACCP Principle and Application

During February 1 to March 1, 1998, Mr. Makoto Yamagata, Short-term expert was dispatched and he conducted lectures and practical training on sanitation and quality control of marine products as well as factory inspection. There is no doubt that this training programme has enhanced the capability of the Institute in the area of Plant Inspection and Quality Assurance; since during the training programme the participants were required to conduct practical exercises on the evaluation of fish plants.

### 5. Comparative Evaluation of Fresh Fish Quality

Mr. Shigato Nomura, short term expert was dispatched during the period January 5<sup>th</sup> to 19<sup>th</sup> 2000, he conducted lectures on the quality of freshness of the fish influenced by handling as well as theoretical and practical training on quality determination of fresh fish, K-value (biochemical method) and bacteria testing.

With this training, participants became more aware and achieved greater understanding of change in freshly caught fish.

Afterwards, K-value methods became useful means by which participants could understand and evaluate the meaning of "FRESHNESS".

### 6. Instruction for Teaching and Extension of Technology

Based on the knowledge and expertise gained from the Japanese Experts, counterparts teach trainees using the teaching instructions and extension of technology procedures in accordance with OJT methods.

Up to March 2000, thirty-four (34)-training sessions were held attended by 319 trainees. The counterparts have conducted or assisted in the conduct of these training sessions and have proven to be capable instructors.

#### 7. Determination of Quality of Marine Products using Chemical (or Laboratory) Methods

In the middle of October 2000, a short-term expert was scheduled for dispatch to conduct training for the theory and operation of this measurement apparatus.

The short-term expert, Mr. Eiichi Kasai, was dispatched from October 14 to November 11, 2000.

#### 8. Plant Designing based on HACCP Standards

The assignment left by Mr. Yamagata, short-term expert for “Plant designing based on HACCP Standards” was completed during the assigned period after his departure.

#### 9. Inplant Inspection and Evaluation

In Plant training programmes were conducted at “Tri-fish Ice and Cold Storage” facility at Macoya Trinidad and Trinidad Seafoods Ltd. located at Laventille. Nine (9) persons attended the session at Trinidad Seafoods, while at Tri-fish thirteen (13) persons attended.

The programme considered handling and processing practices as well as plant sanitation and also included an evaluation exercise of the plant facilities and operations. This enabled us to advise the management of any defects as well as to “customize” the training sessions to the particular needs of the establishment.

## Regional Technical Cooperation Promotion Programme (RTCPP)

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The Regional Technical Cooperation Promotion Programme (herein after called "RTCPP") for the fisheries personnel in the OECS countries under the Regional Fisheries Training Project commenced in February 1998 which was in the second year of the Project. The program was received by four (4) selected countries namely, Grenada, Dominica, St. Lucia and St. Vincent where fisheries is one of the most vital industries. In the third year, the Project welcomed the entry of three (3) more countries in the region, Antigua and Barbuda, Barbados and St. Kitts and Nevis to the program. The number of these nationals that benefited through the courses conducted at CFTDI and through the dispatch of experts and counterparts to these island states is three hundred and seventy (370) as shown in Table 1 – 4 at Appendix 5.

The CFTDI officials, Japanese Experts and their Counterparts confirmed the importance of the Program to the region to promote the mutual understanding and cooperation among Trinidad and Tobago, OECS countries and Japan.

The Project also confirmed the necessity for the continuation of the program through a meeting with Japanese Experts assigned to the Fisheries Division of the respective OECS countries and the Evaluation Survey of RTCPP conducted by Mr. Kazuo Senga, Team Leader from August 21 – 25, 2000. Several countries in the region expressed their support by sending an official letter to the Embassy of Japan indicating the importance of RTCPP for their country's further development in the fisheries sector.

### FIVE YEAR IMPLEMENTATION PLAN (revised in November 2000)

Table 1 /- 1

Remark:  $\longleftrightarrow$  : Actual results,  $\dashrightarrow$  : Plan,  $\dashleftarrow$  : Follow-up  $\dashrightarrow$  : Extended

YEAR MONTH	Project year 1												Project year 2												Project year 3												Project year 4												Project year 5														
	1996												1997												1998												1999												2000												2001		
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3															
<b>I Survey</b>																																																															
1 Survey of fisheries condition	$\longleftrightarrow$																																																														
<b>II Fishing Technology</b>																																																															
1 Vertical longline	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
2 Trolling line	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
3 Pelagic longline	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
4 Bottom longline	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
5 Fish aggregation devices (FAD's)	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
6 Pot fishing	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
7 Set net	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
8 Squid resources survey	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
<b>III Marine Engineering</b>																																																															
1 Outboard engine maintenance	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
2 Diesel engine maintenance	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
3 Hydraulic equipment	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
4 Set-up of workshop	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
5 Diesel outboard motor maintenance	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
6 Marine electronics	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
7 Refrigeration equipment	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
8 FRP fishing boat maintenance	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
<b>IV Fish Processing</b>																																																															
1 Fish handling techniques	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
2 Processing techniques (Salting, Drying, Smoking)	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
3 Freezing preservation	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
4 Comminuted products	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
5 Fermented products	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
6 HACCP Quality control	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
7 High quality preservation techniques	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
8 Instructional tech. & Extension methodology	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
9 Quality measuring equipment	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
10 Designing of HACCP plants	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														
11 Plant inspection & evaluation exercise	$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$												$\dashrightarrow$														

### FIVE YEAR IMPLEMENTATION PLAN (revised in November 2000)

Table 1 /-2

Remark:  $\longleftrightarrow$  : Actual results,  $\dashrightarrow$  : Plan,  $\dashleftarrow$  : Follow-up  $\dashrightarrow$  : Extended

November, 2000

YEAR MONTH	Project year 1			Project year 2			Project year 3			Project year 4			Project year 5											
	1996			1997			1998			1999			2000			2001								
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
<b>V Training course</b>																								
1 Fishing Technology Field																								
2 Marine Engineering Field																								
3 Fish Processing Field																								
<b>VI Others</b>																								
1 Developing textbooks																								
2 Improving course syllabus																								
3 Regional Technical Cooperation Promotion Program																								
3-1. Training in CFTDI																								
3-2. Dispatch of expert																								
3-3. Provision of equipment																								
4 Workshop in TOBAGO																								

PLAN OF OPERATIONS FOR WHOLE PERIOD  
REGIONAL FISHERIES TRAINING PROJECT

Table 2

ACTIVITIES: Dispatch of Japanese Expert

REGIONAL FISHERIES TRAINING PROJECT			1996			1997			1998			1999			2000			2001	REMARK																																												
CONTENTS			Project Year 1			Project Year 2			Project Year 3			Project Year 4			Project Year 5																																																
	Title	Name	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
LONG -TERM	Team Leader	J. FUKUI	←																																																												
		K. SENGA	←																																																												
	Project Coordinator	K. TAKAHASHI	←																																																												
		M. HONDA	←																																																												
	Fishing Technology	K. SENGA	←																																																												
EXPERT	Marine Engineering	M. FUJII	←																																																												
	Fish Processing	H. KIMURA	←																																																												
		F. TAKIGAMI	←																																																												
SHORT -TERM EXPERT	Fish Handling Processing	S. NOMURA	◆ 97/1/7 - 97/1/16 (97/1/5 - 97/1/19)																																																												
	Trotting Line Fishing	I. USUDA	↔ 97/1/21 - 97/2/28 (97/1/19 - 97/3/3)																														REMARK: The figure between brackets indicates dispatched period including traveling. The other indicates																														
	Outboard Motor & Diesel Engine Maintenance	A. MUROMOTO	↔ 97/1/21 - 97/3/12 (97/1/19 - 97/3/15)																																																												
	Diesel OBM Maintenance	N. IWANO	↔ 97/10/10 - 97/11/20 (97/10/9 - 97/11/23)																																																												
	Quality Control &	M. YAMAGATA	◆ 98/2/3 - 98/2/26 (98/2/1 - 98/3/1)																																																												
	Longline Fishing Analysis	T. MATSUOKA	↔ 98/2/16 - 98/3/21 (98/2/14 - 98/3/24)																																																												
	Fishing Technology	R. MORIMITSU	↔ 98/5/17 - 98/10/11 (98/5/15 - 98/10/14)																																																												
	Fish Processing (SURIMI Processing)	Y. KAMINISHI	↔ 98/11/9 - 98/10/9 (98/11/7 - 98/12/12)																																																												
	Marine Electronics	Y. IURA	↔ 99/1/19 - 99/2/5 (99/1/17 - 99/2/8)																																																												
	Construction Works	K. DOI	↔ 99/1/30 - 99/3/16 (99/1/28 - 99/3/19)																																																												
	Pot Fishing & Survey for Set-Net	R. MORIMITSU	↔ 99/2/6 - 99/4/30 (99/2/4 - 99/3/3)																																																												
	Refrigeration Maintenance	S. IWAKIRI	◆ 99/8/9 - 99/8/24 (99/8/7 - 99/8/27)																																																												
	Inspection of construction Building	K. DOI	↔ 99/8/9 - 99/9/7 (99/8/7 - 99/9/10)																																																												
	Pot & Set-Net Fishing	R. MORIMITSU	99/9/21 - 99/11/17 (99/9/19 - 99/11/20)																																																												
	Fermented Product	Y. FUNATSU	00/2/13-00/3/2 (00/2/11-00/3/5)																																																												
	Squid Fishing	Y. ISHIWATA	00/5/15-00/6/23 (00/5/13-00/6/26)																																																												
	Food Nutrition Analysis	E. KASAI	00/10/16-00/11/8 (00/10/14-00/11/11)																																																												
	FRP Maintenance	S. AOKI	00/11/9-00/11/24 (00/11/7-00/11/27)																																																												

PLAN OF OPERATIONS FOR WHOLE PERIOD  
REGIONAL FISHERIES TRAINING PROJECT

Table 3

ACTIVITIES: Counterpart training, provision of equipment etc.

PROJECT TITLE	REGIONAL FISHERIES TRAINING PROJECT		1996			1997			1998			1999			2000			2001									
			Project Year 1			Project Year 2			Project Year 3			Project Year 4			Project Year 5												
ITEM	CONTENTS (OUTLINE, NAME etc.)		4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
COUNTERPART TRAINING IN JAPAN	1) Mr. Carlisle Jordan (Fisheries Administration)							♦ 96/11/19 - 96/12/3 (96/11/15 - 96/12/3)																			
	2) Mr. Selwyn Brooks (Fisheries Education)							♦ 97/3/26 - 97/4/14 (97/3/23 - 97/4/14)																			
	3) Mr. Joseph James (Fishing Gear & Methods)								◀ 97/5/19 - 97/8/31 (97/5/15 - 97/9/2)																		
	4) Mr. Roopial Dowlat (Marine Engine Maintenance)									↔ 97/10/1 - 97/12/19 (97/9/28 - 97/12/2)																	
	5) Mr. Charles Nurse (Quality Assurance of Marine Food)										→ 97/8/26 - 97/11/7 (97/5/25 - 97/11/9)																
	6) Ms. Muriel Quamina (Fish Handling & Processing)										↔ 98/4/28 - 98/8/31 (98/4/25 - 98/9/2)																
	7) Mr. Gilfrid Gomez (Fishing Technology)											↔ 99/2/7 - 99/4/6 (99/2/5 - 99/4/7)															
	8) Mr. David Robinson (Marine Engine)											↔ 99/3/7 - 99/4/30 (99/3/5 - 99/5/1)															
	9) Ms. Tullia Y. Ible (Management for Fisheries Training)											♦ 99/3/21 - 99/4/10 (99/3/19 - 99/4/11)															
	10) Ms. Jennifer R. Yearwood (Fisheries Education)											♦ 99/3/21 - 99/4/10 (99/3/19 - 99/4/11)															
	11) Mr. Llewellyn Ellis (Fishing Technology)											↔ 99/5/18 - 99/7/30 (99/5/15 - 99/8/1)															
	12) Mr. Marvin D. Youksee (Fish Handling & Processing)											↔ 99/6/1 - 99/9/5 (99/5/30 - 99/9/5)															
	13) Mr. Pooran Mohan (Marine Engineering)												00/1/27 - 00/5/27 (00/1/25 - 99/5/28)														
	14) Mr. Calvin Alexander (Fish handling & Processing)																										
	15) Mr. Joseph James (Fishing Technology)																										
REGIONAL TECHNICAL COOPERATION PROMOTION PROGRAM	Invited countries	1 TRAINING AT CFTDI	FISHING TECHNOLOGY FIELD																								
			FISH PROCESSING FIELD																								
			MARINE ENGINEERING FIELD																								
			FISHING TECHNOLOGY FIELD																								
			FISH PROCESSING FIELD																								
			MARINE ENGINEERING FIELD																								
			COST (Training at CFTDI & Dis. of E/P)																								
St. Chris (1998 ~)	3 PROVISION OF TECHNICAL EQUIPMENT	Antigua & Barbuda																									
		Barbados																									
		Grenada																									
		Dominica																									
		St. Christopher & Nevis																									
		St. Lucia																									
		St. Vincent																									
COST (C.I.F.)																											

REMARK:  
The figure in brackets indicates training period. The other indicates dispatched period including traveling.

PLAN OF OPERATIONS FOR WHOLE PERIOD  
REGIONAL FISHERIES TRAINING PROJECT

Table 3-1

ACTIVITIES: Counterpart training, provision of equipment etc.

PROJECT TITLE	REGIONAL FISHERIES TRAINING PROJECT		1996			1997			1998			1999			2000			2001									
			Project Year 1			Project Year 2			Project Year 3			Project Year 4			Project Year 5												
ITEM	CONTENTS (OUTLINE, NAME etc.)		4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
SUPPLEMENTARY PROVISION	CONSTRUCTION OF ENGINE PRACTICE BUILDING	PREPARATION WORK																									
		TENDER																									
		CONSTRUCTION WORK																									
		EQUIPMENT SETTING UP																									
		COST: TT\$1,192,575.50 (24,410,000YEN)																									
PROVISION OF TECHNICAL EQUIPMENT	BUDGET	FOREIGN PURCHASE (IN JAPAN)	75,741,000 YEN																								
		LOCAL PURCHASE		24,568,000 YEN (US\$209,700)																							
		TOTAL	TT\$1,329,278.90	TT\$1,311,078.92																							
			99,853,000 YEN	29,290,000 YEN																							
	Main equipment	42 ft. longline fishing boat, Fishing gear, Processing equipment, OBMs, Pickup truck	4ton truck, Fishing gear, Diesel engines, diesel OBMs, Smoker, Packing equipment etc.	FAD's, Processing equipment, Generator, Refrigerator model, Fishing gear etc.	Fishing gear, Quality control equipment, Engineering tools etc.	Fishing gear, Quality control equipment, Engineering tools etc.																					
ACTIVITY EXPENSES OF EXPERTS	FOR TRAVEL ALLOWANCE, OFFICE EQUIPMENT, EQUIPMENT & PARTS, TEL & FAX FEE, ETC		6,700,000YEN	6,490,000YEN	4,320,000YEN	3,551,000YEN																					
																										PLANNED 7,271,000YEN	



## Provision of Equipment List

Table 4

Fields-FT: Fishing technology, ME: Marine Engine, FP: Fish Processing AD: Administration

Price 100,000 Yen-1,600,000 Yen

No.	Fields	Year of Purchase	Item	Price (Yen)	Condition Under Utilization	In charge of person	Set up Place	condition of Equipment	Remarks
96-001	FT	1996	Computer Macintosh Powerbook 5300CS	288,000	A	Senga	Expert Office	A	
96-002	ME	1996	Computer Macintosh Powerbook 5300CS	288,000	A	Kimura	Expert Office	A	
96-003	FP	1996	Computer Macintosh Powerbook 5300CS	288,000	A	Takigami	Expert Office	A	
96-004	AD	1996	Computer Macintosh Performa 5320	327,000	A	Fukui	Leader Office	A	
96-005	AD	1996	Computer Macintosh Performa 5320	253,500	A	Takahashi	Coordinator Office	A	
97-001	AD	1996	Printer Apple Laserwriter 4/600PS	151,850	A	Fukui	Leader Office	A	
97-002	FP	1996	Freezer	102,100	A	Takigami, C/P	Fish Processing Unit	A	
97-003	AD	1996	FAX Machine	149,630	A	Takahashi	Coordinator Office	A	
97-004	ME	1996	Computer Machintosh LC575	178,930	A	Kimura, C/P	Marine Engine Unit	A	
97-005	FP	1996	Thermal Anemometer	259,657	A	Takigami, C/P	Fish Processing Unit	A	
97-006	FP	1996	Strand Electric Fish Scaler	140,430	A	Takigami, C/P	Fish Processing Unit	A	
97-007	ME	1996	Computer Macintosh Performa 6400/180	299,225	A	Kimura, C/P	Marine Engine Unit	A	
97-008	AD	1996	Computer Machintosh Performa 6400/181	299,225	A	Takahashi	Coordinator Office	A	
97-009	FP	1996	Freezer	1,188,200	A	Takigami, C/P	Fish Processing Unit	A	
97-010	ME	1996	Welding Machine	1,165,200	A	Kimura, C/P	Marine Engine Unit	A	

## Provision of Equipment List

Fields-FT: Fishing technology, ME: Marine Engine, FP: Fish Processing AD: Administration

Price 100,000 Yen-1,600,000 Yen

No.	Fields	Year of Purchase	Item	Price (Yen)	Condition Under Utilization	In charge of person	Set up Place	condition of Equipment	Remarks
97-011	FT	1997	Radio Beeper Buoy	203,559	A	Senga, C/P	Fishing Technology Unit	A	
97-012	FT	1997	Radio Beeper Buoy	203,559	A	Senga, C/P	Fishing Technology Unit	A	
97-013	FT	1997	Radio Direction Finder	587,243	A	Senga, C/P	Fishing Technology Unit	A	
97-014	FT	1997	Outboard Engine YAMAHA E-75B-R	579,076	A	Senga, C/P	Fishing Technology Unit	A	
97-015	FT	1997	Outboard Engine YAMAHA E-75B-R	579,076	A	Senga, C/P	Fishing Technology Unit	A	
97-016	FT	1997	Outboard Engine YAMAHA E-15B	224,032	A	Senga, C/P	Fishing Technology Unit	A	
97-017	FT	1997	Fish Finder	122,313	A	Senga, C/P	Fishing Technology Unit	A	
97-018	FP	1997	Beverage Air Display Chiller	216,908	A	Takigami, C/P	Fish Processing Unit	A	
97-019	FP	1997	Ph Meter	108,499	A	Takigami, C/P	Fish Processing Unit	A	
97-020	FP	1997	Ph Meter	108,499	A	Takigami, C/P	Fish Processing Unit	A	
97-021	ME	1997	Automatic Saw	131,442	A	Kimura, C/P	Marine Engine Unit	A	
97-022	ME	1997	25 Ton Hydraulic Jack	287,848	A	Kimura, C/P	Marine Engine Unit	A	
97-023	ME	1997	Portable Generator	129,150	A	Kimura, C/P	Marine Engine Unit	A	
97-024	ME	1997	Portable Generator	129,150	A	Kimura, C/P	Marine Engine Unit	A	
97-025	ME	1997	Work Bench	169,356	A	Kimura, C/P	Marine Engine Unit	A	
97-026	ME	1997	Work Bench	169,356	A	Kimura, C/P	Marine Engine Unit	A	
97-027	ME	1997	Work Bench	169,356	A	Kimura, C/P	Marine Engine Unit	A	

## Provision of Equipment List

Fields-FT: Fishing technology, ME: Marine Engine, FP: Fish Processing AD: Administration

Price 100,000 Yen-1,600,000 Yen

No.	Fields	Year of Purchase	Item	Price (Yen)	Condition Under Utilization	In charge of person	Set up Place	condition of Equipment	Remarks
97-028	FP	1997	Beverage Air Display Freezer	397,830	A	Takigami, C/P	Fish Processing Unit	A	
97-029	FP	1997	Sausage Stuffing Machine	119,118	A	Takigami, C/P	Fish Processing Unit	A	
97-030	FP	1997	Electrical Chopper	192,536	A	Takigami, C/P	Fish Processing Unit	A	
97-031	FP	1997	Molding Attachment to Meat Chopper	1,392,197	A	Takigami, C/P	Fish Processing Unit	A	
97-032	FP	1997	Microwave Oven	103,074	A	Takigami, C/P	Fish Processing Unit	A	
97-033	FP	1997	Fryer (LPG gas)	171,790	A	Takigami, C/P	Fish Processing Unit	A	
97-034	FP	1997	Steam Jacketed Kettle with Built in Pressure Gauge	330,524	A	Takigami, C/P	Fish Processing Unit	A	
97-035	FT	1997	Air Conditioner for Fishing Vessel	277,000	A	Senga, C/P	Fishing Technology Unit	A	
97-036	FP	1996	Packing Machine	622,750	A	Takigami, C/P	Fish Processing Unit	A	
97-037	ME	1996	Outboard Motor D27	1,050,809	A	Kimura, C/P	Marine Engine Unit	A	
97-038	ME	1996	Outboard Motor D27	1,050,809	A	Kimura, C/P	Marine Engine Unit	A	
97-039	ME	1996	Software for studying an Outboard Motor, Diesel Engine, Refrigerator	255,000	A	Kimura, C/P	Marine Engine Unit	A	
97-040	ME	1996	Software for studying an Outboard Motor, Diesel Engine, Refrigerator	255,000	A	Kimura, C/P	Marine Engine Unit	A	
97-041	ME	1996	Nozzle Tester	115,855	A	Kimura, C/P	Marine Engine Unit	A	
97-042	FT	1996	Water Depth & Temperature	255,000	A	Senga, C/P	Fishing Technology Unit	A	
97-043	FT	1996	GPS Portable Type	164,900	A	Senga, C/P	Fishing Technology Unit	A	
97-044	AD	1996	Printer Laser Jet 4V	267,750	A	Takahashi	Coordinator Office	A	
97-045	AD	1996	Direct Projector	295,800	A	Takahashi	Coordinator Office	A	

Provision of Equipment List

Fields-FT: Fishing technology, ME: Marine Engine, FP: Fish Processing AD: Administration

Price 100,000 Yen-1,600,000 Yen

No.	Fields	Year of Purchase	Item	Price (Yen)	Condition Under Utilization	In charge of person	Set up Place	condition of Equipment	Remarks
97-046	ME	1997	Crank Disassembly Tool Kit	256,000	A	Kimura, C/P	Marine Engine Unit	A	
97-047	ME	1997	Plug Cleaner	116,000	A	Kimura, C/P	Marine Engine Unit	A	
97-048	AD	1997	Overhead Projector	250,000	A	Honda	Coordinator Office	A	
97-049	AD	1997	Overhead Projector	250,000	A	Honda	Coordinator Office	A	
98-001	FP	1998	Electric Steam Boiler	483,000	A	Takigami, C/P	Fish Processing Unit	A	
98-002	ME	1998	Electric Wire	173,000	A	Kimura, C/P	Marine Engine Unit	A	
98-003	ME	1998	Switchoard	190,000	A	Kimura, C/P	Marine Engine Unit	A	
98-004	FT	1998	Catch Anchor	931,300	A	Fujii, C/P	Fishing Technology Unit	A	
98-005	FT	1998	Auto Pilot Device	907,300	A	Fujii, C/P	Fishing Technology Unit	A	
98-006	FT	1998	Fish Aggregating Device	623,000	A	Fujii, C/P	Fishing Technology Unit	A	
98-007	FT	1998	Fish Aggregating Device	1,470,000	A	Fujii, C/P	Fishing Technology Unit	A	
98-008	ME	1998	Stern Drive	1,034,000	A	Kimura, C/P	Marine Engine Unit	A	
98-009	ME	1998	Stern Drive	1,034,000	A	Kimura, C/P	Marine Engine Unit	A	
98-010	FP	1998	Near-Infrared Moisture Meter	808,000	A	Takigami, C/P	Fish Processing Unit	A	
98-011	AD	1998	Data Projector	1,210,800	A	Honda	Coordinator Office	A	
98-012	AD	1998	Wireless Microphone	250,150	A	Honda	Coordinator Office	A	
98-013	AD	1998	Wireless Microphone	250,150	A	Honda	Coordinator Office	A	
98-014	AD	1998	Computer Macintosh G3	571,272	A	Honda	Coordinator Office	A	
98-015	AD	1998	Quantex for Windows 98	431,998	A	Honda	Coordinator Office	A	

Provision of Equipment List

Fields-FT: Fishing technology, ME: Marine Engine, FP: Fish Processing AD: Administration

Price 100,000 Yen-1,600,000 Yen

No.	Fields	Year of Purchase	Item	Price (Yen)	Condition Under Utilization	In charge of person	Set up Place	condition of Equipment	Remarks
98-016	FT	1998	34 Ft Pirogue Trailer	116,684	A	Fujii, C/P	Fishing Technology Unit	A	
98-017	FT	1998	Solar Panel	122,824	A	Fujii, C/P	Fishing Technology Unit	A	
99-001	AD	1999	Computer Sharp MEBIUS	319,500	A	Honda	Coordinator Office	A	
99-002	ME	1999	Software	380,000	A	Kimura, C/P	Marine Engine Unit	A	
99-003	ME	1999	Sink Unit	1,003,000	A	Kimura, C/P	Marine Engine Unit	A	
99-004	ME	1999	Outboard Engine F40AET	493,850	A	Kimura, C/P	Marine Engine Unit	A	
99-005	ME	1999	Outboard Engine F25AE	354,200	A	Kimura, C/P	Marine Engine Unit	A	
99-006	ME	1999	Diesel Injection Pump Special Tool Set	110,000	A	Kimura, C/P	Marine Engine Unit	A	
00-001	ME	2000	Electric Power Hacksaw	464,562	A	Kimura, C/P	Marine Engine Unit	A	
00-002	ME	2000	Quantex for Windows 98	137,215	A	Kimura, C/P	Marine Engine Unit	A	
00-003	ME	2000	Quantex for Windows 98	137,215	A	Kimura, C/P	Marine Engine Unit	A	

Provision of Equipment List

Fields-FT: Fishing technology, ME: Marine Engine, FP: Fish Processing AD: Administration

Price Over 1,600,000 Yen

No.	Fields	Year of Purchase	Item	Price (Yen)	Condition Under Utilization	In charge of person	Set up Place	Condition of Equipment	Remarks
97-005	FT	1996	12.7m FRP Training Vessel	63,235,000	A	Senga	CFTDI Jetty	A	
97-008	AD	1996	TOYOTA Hilux 4x4 Dobule Cab	2,083,200	A	CFTDI Principal	Main Compound	A	
97-011	FP	1996	Beverage Freezer	1,613,900	A	Takigami, C/P	Fish Processing Unit	A	
97-013	ME	1996	Diesel Engine 190Hp	2,616,910	A	Kimura, C/P	Marine Engine Unit	A	
97-014	ME	1996	Diesel Engine 130Hp	1,732,670	A	Kimura, C/P	Marine Engine Unit	A	
97-026	AD	1997	3.5 ton Mitsubishi Canter	2,423,146	A	CFTDI Principal	Main Cumpound	A	
97-034	FP	1997	De- boner	3,350,098	A	Takigami, C/P	Fish Processing Unit	A	
97-049	FP	1997	Afos Mini Smoking Kiln	3,184,764	A	Takigami, C/P	Fish Processing Unit	A	
97-054	ME	1997	Diesel Engine	1,612,000	A	Kimura, C/P	Marine Engine Unit	A	
98-018	FT	1998	34 Feet V-Pirogue	2,667,000	A	Fujii, C/P	CFTDI Jetty	A	
98-019	ME	1998	Generator	2,408,000	A	Kimura, C/P	Marine Engine Unit	A	
98-020	ME	1998	Refreigraton Trainer	3,094,000	A	Kimura, C/P	Marine Engine Unit	A	
98-021	FP	1998	Colloid Mill	2,185,000	A	Takigami, C/P	Fish Processing Unit	A	
98-022	ME	1998	Generator	1,656,000	A	Kimura, C/P	Marine Engine Unit	A	

**Record of Training Courses conducted for the participants of Trinidad and Tobago  
(FISHING TECHNOLOGY)**

\* L/E ----- Long Term Expert, S/E ----- Short term Expert, C/P ----- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
1	Lecture & Gear Construction Practice on Vertical Longline	12 – 16/8/96	L/E	CFTDI	C/P & CFTDI Personnel	5
2	Practical Fishing Operation on Vertical Longline	19 – 22/8/96	L/E	CFTDI	C/P & CFTDI Personnel	5
3	Practical Fishing Operation on Vertical Longline	30/9 – 4/10/96	L/E	CFTDI	C/P & CFTDI Personnel	10 (2)
4	Gear Construction Practice on Pelagic Longline	12 – 16/11/96	L/E	CFTDI	C/P & CFTDI Personnel	6
5	Workshop on Vertical Longline	9 – 13/12/96	L/E, S/E	Tobago	Fishermen	16 (6)
6	Lecture & Gear Construction Practice on Trolling	27 – 31/1/97	S/E	CFTDI	C/P & CFTDI Personnel	6 (2)
7	C/P Training & Trials of Trolling Gear	3, 14, 25/2/97	L/E, S/E	CFTDI	C/P & CFTDI personnel	6 (2)
8	Workshop on Trolling Gear and Method	17 – 20/2/97	L/E, S/E	Tobago	Fishermen	66 (2)
9	C/P Training & Exploratory Fishing on Vertical Longline	19, 26/3/97	L/E	CFTDI	C/P & CFTDI Personnel	6
10	Workshop on Vertical Longline	15 – 18/4/97	L/E, C/P	Tobago	Fishermen	11
11	C/P Training & Exploratory Fishing on Pelagic Longline	18 – 21/4/97	L/E	Tobago	C/P & CFTDI Personnel	8
12	Gear Construction Practice on Fish Trawl	5-23/5/97	L/E	CFTDI	C/P & CFTDI Personnel	8
13	Practical Fishing Operation on Pelagic Longline	9 – 14/6/97	L/E	CFTDI	C/P & CFTDI Personnel	8
14	C/P Training & Trials of Fish Trawl Net	27, 28/5/97 27/6/97	L/E	CFTDI	C/P & CFTDI Personnel	7

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
15	C/P Training & Exploratory Fishing on Fish Trawl	19, 30/9/97	L/E	CFTDI	C/P & CFTDI Personnel	7
16	Gear Construction Practice on Bottom Longline	4 - 8/10/97	L/E	CFTDI	C/P & CFTDI Personnel	4
17	C/P Training & Exploratory Fishing on Bottom Longline	12 - 16/10/97	L/E	CFTDI	C/P & CFTDI Personnel	4
18	Workshop on Bottom & Vertical Longline	3 - 7/11/97	L/E, C/P	Toco	Fishermen	14
19	C/P Training & Exploratory Fishing on Bottom Longline	17 - 21/11/97	L/E	CFTDI	C/P & CFTDI Personnel	4
20	Workshop on Bottom & Vertical Longline	1 - 5/12/97	L/E, C/P	Las Cuevas	Fishermen	12
21	C/P Training & Trials of Fish Trawl Net	22, 29/10/97 11/11/97 17, 22/12/97	L/E	CFTDI	C/P & CFTDI personnel	9
22	Gear Construction Practice on Fish Trawl Net	19/1/98 - 10/2/98	L/E	CFTDI	C/P & CFTDI Personnel	6
23	C/P Training & Trials of Fish Trawl Net	12, 13/2/98	L/E	CFTDI	C/P & CFTDI Personnel	11
24	Special technical Transfer Program on the Selectivity of Fishing Gear using Bottom Longline and Fish Trawl	15/2/98 - 22/3/98	S/E	CFTDI	C/P & CFTDI Personnel	6
25	Exploratory Fishing on Pelagic Longline	26/4/98 - 1/5/98	L/E	CFTDI	C/P & CFTDI Personnel	6
26	C/P Training & Gear Construction Practice on Bottom Longline with Manual Reel	8 - 31/6/98	L/E, S/E	CFTDI	C/P	1
27	Trials of Bottom Longline with Manual Reel	23 - 28/6/98	L/E, S/E	CFTDI	C/P & CFTDI Personnel	10
28	Practical Fishing Operation on Bottom Longline with Manual Reel	1 - 16/7/98	S/E	CFTDI	C/P & CFTDI Personnel	5



No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
29	Exploratory Fishing on Pelagic Longline	24 - 28/7/98	S/E	CFTDI	C/P & CFTDI Personnel	5
30	Exploratory Fishing on Vertical Longline	13-16,29,30 /7/98	S/E	CFTDI	C/P & CFTDI Personnel	5
31	Lecture & Gear Construction Practice on Bottom Gill Net	17 - 19, 21 - 25 /8/98	S/E	CFTDI	C/P	2
32	Construction Practice on Fish Aggregating Device (FAD's)	25,26,28/8/98 1,2,10,11/9/98	S/E	CFTDI	C/P	2
33	Workshop on Bottom & Vertical Longline	19, 20/9/98	S/E, C/P	Jumbie Bay	Fishermen	13
34	Practical Fishing Operation on Bottom Gill Net	29, 30/9/98	S/E	CFTDI	C/P & Fishermen	7
35	Lecture & Model Net Construction Practice on Set Net (Choko-ami)	10,11,18,19 /2/99 22 - 26/2/99	L/E, S/E	CFTDI	C/P & CFTDI personnel	5
36	Gear Construction Practice on Set Net	2-5, 8-12/3/99 15 -19/3/99 1,6,7,19,20/4/99	S/E	CFTDI	C/P & CFTDI Personnel	5
37	Workshop on Fish Aggregating Device	22 - 26/3/99	L/E, C/P	Bucco/Tobago	Fishermen & Fisheries Division Personnel	20 (5)
38	Lecture & Gear Construction Practice on Diamondback Squid & Mid-water Tuna	8, 9, 12/4/99	L/E, S/E	CFTDI	C/P & CFTDI Personnel	5
39	Practical Fishing Operation on Diamondback Squid & Mid-water Tuna	12 - 16/4/99	L/E, S/E	CFTDI	C/P & CFTDI Personnel	5
40	Practical Fishing Operation on Set Net (Masu-ami)	21 - 27/4/99	L/E, S/E	CFTDI	C/P & CFTDI Personnel	5
41	Lecture & Gear Construction Practice On Pot Fishing	17-21, 24-26 /5/99 1,2,7,8,10/6/99	L/E	CFTDI	C/P & CFTDI Personnel	9
42	Practical Fishing Operation on Shrimp Pot	27 - 31/5/99 1 - 11/5/99	L/E	CFTDI	C/P & CFTDI Personnel	9

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
43	Practical Fishing Operation on Lobster Pot	30/6 - 2/7/99	L/E	CFTDI	C/P, CFTDI Personnel & Tobago Fisheries Division Personnel	10 (2)
44	Gear Improvement Practice on Deep-sea Bottom Longline	6 - 10/9/99	L/E	CFTDI	C/P & CFTDI Personnel	4
45	Practical Fishing Operation on Deep-sea Bottom Longline	14 - 18/9/99	L/E	CFTDI	C/P & CFTDI Personnel	4
46	Gear Improvement Practice on Lobster Pot	30/8 - 10/9/99	L/E	CFTDI	C/P & CFTDI Personnel	4
47	Practical Fishing Operation on Lobster Pot	14 - 18/9/99	L/E	CFTDI	C/P & CFTDI Personnel	4
48	Gear Improvement Practice on Set Net (Masu-ami)	20 - 24/9/99	L/E, S/E	CFTDI	C/P	2
49	Lecture & Gear Design Practice on Set Net (Masu-ami)	27 - 30/9/99 9 - 12/11/99	S/E	CFTDI	C/P	2
50	Workshop on Fish Aggregating Device	1, 13, 29 - 30/12/99	L/E, C/P	Kings Bay, Tobago	Fishermen & Tobago Fisheries Division Personnel	21 (5)
51	Lecture & Gear Improvement Practice on Set Net (Masu-ami)	4 - 18/4/00	L/E	CFTDI	C/P	2
52	Practical Fishing Operation on Set Net (Masu-ami)	17 - 29/4/00	L/E	CFTDI	C/P & CFTDI Personnel	5
53	Lecture Gear Construction Practice on Squid Fishing	16 - 20/5/00	L/E, S/E	CFTDI	C/P & CFTDI Personnel	10
54	Practical Operation on Squid Fishing	23/5 - 9/6/00	L/E, S/E	Tobago, Grenada	C/P & CFTDI Personnel	10

**Record of Training Courses conducted for the participants of OECS countries under the RTCPP  
(FISHING TECHNOLOGY)**

\* L/E ----- Long Term Expert, S/E ----- Short term Expert, C/P ----- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
1	Workshop on Bottom & Vertical Longline	22 - 28/3/98	L/E, C/P	Grenada	Fishermen	35 (1)
2	Training Course on Fishing Technology with special focus on Vertical Longline, Bottom Longline Pelagic Longline & Fish Aggregating Device (FAD's)	16/11 - 11/12/98	L/E, C/P	CFTDI	Fisheries Personnel from Antigua, Barbados, Dominica, Grenada, St. Lucia and St. Vincent	6
3	Workshop on Bottom, Vertical Longline & FAD's	1 - 7/2/99	L/E, C/P	St. Lucia	Staff of Fisheries Division & Fishermen	23 (8)
4	Workshop on Bottom & Vertical Longline	8 - 14/3/99	L/E, C/P	Barbados	Staff of Fisheries Division & Fishermen	11 (5)
5	Training Course on Fishing Technology with special focus on Set Net, Pot, Bottom & Vertical Longline	4 - 29/10/99	L/E, C/P	CFTDI	Fisheries Personnel from Barbados, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, St. Vincent and Tobago	6
6	Workshop on Bottom & Vertical Longline	24 - 30/1/00	L/E, C/P	Dominica	Staff of Fisheries Division & Fishermen	20 (5)
7	Workshop on Bottom & Vertical Longline	21 - 27/2/00	L/E, C/P	St. Kitts & Nevis	Staff of Fisheries Division & Fishermen	24 (5)
8	Training Course on Fishing Technology with special focus on Set Net, Pot, Vertical Longline, Bottom Longline & Squid Fishing	2 - 27/10/00	L/E, C/P	CFTDI	Fisheries Personnel from Antigua & Barbuda, Barbados, Dominica, Grenada, St. Kitts & Nevis, St. Lucia and St. Vincent	7
9	Workshop on Diamondback Squid Fishing	4 - 10/12/00	L/E, C/P	St. Vincent	Staff of Fisheries Division & Fishermen	
10	Workshop on Bottom Longline, Vertical Longline & Diamondback Squid Fishing	8 - 14/1/01	L/E, C/P	Dominica	Staff of Fisheries Division & Fishermen	
11	Workshop on Bottom & Vertical Longline	5-11/2/01	L/E, C/P	Antigua & Barbuda	Staff of Fisheries Division and Fishermen	

**Record of Training Courses conducted for the participants of Trinidad and Tobago  
(MARINE ENGINEERING)**

\* L/E ----- Long Term Expert, S/E ----- Short term Expert, C/P ----- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
1	Outboard Motors Maintenance	17 - 19/4/96	L/E, C/P	Otaheite	Fishermen	9
2	Outboard Motors Maintenance	22 - 24/4/96	L/E, C/P	Kings Wharf	Fishermen	24
3	Outboard Motors Maintenance	5 - 7/11/96	L/E, C/P	Erin	Fishermen	13
4	Outboard Motors Maintenance	13 - 15/11/96	L/E, C/P	Erin	Fishermen	10
5	Outboard Motors Maintenance	19 - 21/11/96	L/E, C/P	Erin	Fishermen	11
6	Outboard Motors Maintenance	4 - 7/12/96	L/E, C/P	Morne Diablo	Fishermen	11
7	Outboard Motors Maintenance	10 - 12/12/96	L/E, C/P	Morne Diablo	Fishermen	15
8	Outboard Motors Maintenance	17 - 19/12/96	L/E, C/P	Morne Diablo	Fishermen	14
9	Outboard Motors Maintenance	14 - 16/1/97	L/E, C/P	Cumana	Fishermen	12
10	Diesel Engine Maintenance	28 - 31/1/97	S/E	CFTDI	CFTDI & Coast Guard Personnel	7
11	Outboard Motors Maintenance	17 - 21/2/97	S/E, C/P	CFTDI	CFTDI & Coast Guard Personnel	10
12	Outboard Motors Maintenance	2 - 27/2/97	S/E, S/E	CFTDI	Teachers of Auto & Mechanic	11
13	Outboard Motors Maintenance	18 - 20/3/97	L/E, C/P	Bonase	Fishermen	13

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
14	Outboard Motors Maintenance	10 - 12/6/97	L/E, C/P	Matelot	Fishermen	15
15	Outboard Motors Maintenance	25 - 27/6/97	L/E, C/P	Icacos	Fishermen	7
16	Outboard Motors Maintenance	14 - 18/7/97	L/E, C/P	CFTDI	Teachers of Auto Mechanic	8
17	Outboard Motors Maintenance	4 - 8/8/97	L/E, C/P	CFTDI	Teachers of Auto Mechanic	6
18	Outboard Motors Maintenance	21 - 23/8/97	L/E, C/P	Bucco, Tobago	Fishermen	13
19	Outboard Motors Maintenance	25 - 27/8/97	L/E, C/P	Charlotteville, Tobago	Fishermen	16
20	Outboard Motors Maintenance	23 - 25/9/97	L/E, C/P	Las Cuevas	Fishermen	16
21	Outboard Motors Maintenance	30/9 - 2/10/97	L/E, C/P	Maracas	Fishermen	10
22	Outboard Motors Maintenance	21 - 23/10/97	L/E, C/P	Plaisance	Fishermen	24
23	Outboard Motors Maintenance	12 - 14/11/97	S/E	CFTDI	CFTDI & Coast Guard Personnels	8
24	Diesel Outboard Motors Maintenance	17 - 19/11/97	S/E	CFTDI	Teachers of Auto Mechanic	13
25	Outboard Motors Maintenance	16 - 18/12/97	L/E, C/P	Cumana	Fishermen	8
26	Outboard Motors Maintenance	20 - 22/1/98	L/E, C/P	Ortoire	Fishermen	9
27	Outboard Motors Maintenance	3 - 5/2/98	L/E, C/P	Brickfield	Fishermen	7
28	Outboard Motors Maintenance	21 - 23/4/98	L/E, C/P	Grande Riviera	Fishermen	16

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
29	Outboard Motors Maintenance	29 - 30/4/98	L/E, C/P	CFTDI	Anthony's College Student	7
30	Outboard Motors Maintenance	19 - 21/5/98	L/E, C/P	Grande Riviera	Fishermen	16
31	Outboard Motors Maintenance	21/1-3/2/99	S/E	CFTDI	C/P & Coast Guard Personnel	6
32	Outboard Motors Maintenance	13 - 15/4/99	L/E, C/P	Cacandee	Fishermen	12
33	Outboard Motors Maintenance	29/6 - 1/7/99	L/E, C/P	Castara, Tobago	Fishermen	20
34	Outboard Motors Maintenance	20 - 23/7/99	L/E, C/P	Grande Lagoon	Fishermen	9
35	Refrigeration System	9 - 23/8/99	S/E	CFTDI	C/P, Coast Guard Personnel and Fisheries Personnel from OECS	12
36	Outboard Motors Maintenance	14 - 16/9/99	L/E, C/P	Roxborough, Tobago	Fishermen	7
37	Outboard Motors Maintenance	7 - 9/12/99	L/E, C/P	Bon Accord, Tobago	Fishermen	16
38	Outboard Motors Maintenance	21-23/8/00	L/E, C/P	Moruga	Fishermen	10
39	Outboard Motors Maintenance	4 - 8/9.00	L/E, S/E	Plymouth Tobago	Fishermen	15

**Record of Training Courses conducted for the participants of OECS countries under the RTCPP  
(MARINE ENGINEERING)**

\* L/E ----- Long Term Expert, S/E ----- Short term Expert, C/P ----- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
1	Outboard Motors, Diesel outboard Motors and Diesel Engine	2 - 30/5/98	L/E, C/P	CFTDI	Fisheries Personnel from Dominica, Grenada and St. Lucia	3
2	Diesel Engine Maintenance	25-28/5/98	L/E, C/P	St. Lucia	Staff of Fisheries Division,	8
3	Outboard Motors Maintenance	23 - 26/6/98	L/E, C/P	Grenada	Fishermen	31
4	Outboard Motors, Diesel outboard Motors, Diesel Engine and FRP	15/11-11/12/98	L/E, C/P	CFTDI	Fisheries Personnel from Antigua & Barbuda, Barbados, Dominica, Grenada(2), St. Lucia and St. Vincent	7
5	Diesel Outboard Motors & Outboard Motors maintenance	1 - 6/3/99	L/E, C/P	Dominica	Staff of Fisheries Division & Fishermen	16
6	Diesel Engine Maintenance	15 - 20/3/99	L/E, C/P	St. Vincent	Staff of Fisheries Division & Fishermen	8
7	Outboard Motors, Diesel outboard Motors, Diesel Engine and FRP	4 - 29/10/99	L/E, C/P	CFTDI	Fisheries Personnel from Antigua & Barbuda, Barbados, Dominica, Grenada, St. Lucia, St. Vincent and St. Kitts & Navis	7
8	Outboard Motors Maintenance	25 - 28/1/00	L/E, C/P	Antigua & Barbuda	Fishermen & Coast Guard Personnel	26
9	Outboard Motors Maintenance	15 - 18/2/00	L/E, C/P	St. Vincent	Staff of Fisheries Division & Fishermen	21
10	Diesel Engine Maintenance	21 - 24/3/00	L/E, C/P	Grenada	Fishermen	10
11	Outboard Motors, Diesel outboard Motors, Diesel Engine and FRP	2 - 27/10/00	L/E, C/P	CFTDI	Fisheries Personnel from Antigua & Barbuda, Barbados, Dominica, Grenada, St. Lucia, St. Vincent and St. Kitts & Navis	7

\* L/E ---- Long Term Expert, S.E ----- Short term Expert, C.P ----- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
12	Diesel Engine Maintenance	11 - 17/12/00	L/E, C/P	Barbados	Staff of Fisheries Division, and Fishermen	
13	Outboard Motors Maintenance	22 - 28/1/01	L/E, C/P	St. Kitts & Nevis	Fishermen	



**Record of Training Courses conducted for the participants of Trinidad and Tobago  
(FISH PROCESSING)**

\* L/E ---- Long Term Expert, S/E ---- Short term Expert, C/P ---- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
1	Seafood Handling, Processing and Preservation Technology	8 - 26/7/96	L/E, C/P	CFTDI	Teachers of Home Economics	11
2	Seafood Handling, Processing and Preservation Technology	19 - 30/8/96	L/E, C/P	CFTDI	Staff of an enterprise in Grenada	1
3	Seafood Handling, Processing and Preservation Technology	14/10-8/11/96	L/E, C/P	CFTDI	Learner Improvers of CFTDI	4
4	Seafood Handling, Processing and Preservation Technology	12 - 29/11/96	L/E, C/P	CTTDI	Employees of Seafood Enterprises	11
5	Quality Control, K-value and Microbiology	6 - 17/1/97	L/E, S/E	CFTDI	C/P and T.T. Government Personnel concerned	9
6	Seafood Handling, Processing and Preservation Technology	10 - 14/3/97	L/E, C/P	CFTDI	Employees of Seafood Enterprises	1
7	Fin Fish Handling and Vessel Sanitation	3 - 4/4/97	L/E, C/P	CFTDI	Crew Members of CFTDI Training Vessel	6
8	Seafood Handling, Processing and Preservation Technology	21/4 - 9/5/97	L/E, C/P	CFTDI	Employees of Seafood Enterprises	6
9	In Plant Training	17, 25/6/97	L/E, C/P	Tri-fish Ltd.	Employees	13
10	Fish Handling, Processing, Preservation and Cookery Technology	7 - 25/7/97	L/E, C/P	CFTDI	Teachers of Home Economics	11
11	Fin Fish Handling and Market Sanitation	27 - 28/11/97	L/E, C/P	CFTDI	Vendors from NAMDev Co.	8
12	Quality Assurance	5 - 26/2/98	L/E, S/E	CFTDI	C/P (together with participants of RTCPP Training Course)	2
13	Quality Control & Quality Assurance, Fish Handling, Salting, Drying and Smoking	2 - 28/3/98	L/E, C/P	CFTDI	Government and Plant Employees from Surinam, Antigua, Barbados and T.T.	14

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
14	Quality Control & Quality Assurance, Fish Handling, Salting, Drying and Smoking	6 - 24/7/98	L/E, C/P	CFTDI	Managers and Directors of Enterprises of Marine Products	14
15	Surimi and its Products	30/11 - 18/12/98	L/E, S/E	CFTDI	C/P (together with participants of RTCPP Training Course)	2
16	Fin Fish Handling and Vessel Sanitation	12 - 15/5/98	C/P	CFTDI	Crew Members of Training Vessel "Provider II"	10
17	Seafood Handling, Processing and Preservation Technology	21 - 25/6/98	L/E, C/P	CFTDI	Employees of Seafood Enterprises	5
18	Seafood Handling, Processing, Preservation and Cookery Technology	12 - 30/7/99	L/E, C/P	CFTDI	Home Economics Teachers	5
19	Seafood Handling, Processing and Preservation Technology	30/8 - 24/9/99	L/E, C/P	CFTDI	Personnel from Surinam (5), Guyana (1) and Trinidad (5)	11
20	In Plant Training	27/9/99	L/E, C/P	Trinidad Seafoods Ltd.	Employees of Trinidad Seafoods Ltd.	9
21	Mobile Training at Scarborough, Tobago	23 - 24/11/99	L/E, C/P	Tobago Sea Products Ltd.	Employees of Seafood Enterprises and Fishermen	28
22	Mobile Training at Charlotteville, Tobago	25 - 26/11/99	L/E, C/P	Fresh Fish of Tobago Ltd.	Employees of Seafood Enterprises and Fishermen	18
23	Fin Fish Handling and Vessel Sanitation	30/11 - 2/12/99	L/E, C/P	CFTDI	Special Re-training Course for Fishermen in South/West Peninsula	10
24	Fermented Seafood Products	15/2 - 3/3/00	L/E, S/E	CFTDI	C/P, Staff of FPU/CFTDI, Fisheries Personnel from Antigua, and Barbados	6
25	Seafood Handling, Processing and Preservation Technology	3 - 7/4/00	C/P	CFTDI	Employees of Seafood Enterprises	9
26	Utilization of Fish in Salad	26 - 28/4/00	C/P	CFTDI	Cooks of Hotels and Guesthouses	9

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
27	Fish Inspection Programme	29/5 - 9/6/00	L/E, C/P	CFTDI	Staff of Chemistry, Food and Drugs Div. (5), Veterinary Public Health (3), Fisheries Officer (1) from Antigua	12
28	Seafood Processing and Cookery	10 - 28/7/00	C/P	CFTDI	Home Economics Teachers	7
29	Quality Control and Quality Assurance	17/7 - 18/8/00	C/P	CFTDI	Fisheries Personnel from Antigua (2), Tobago (1) and CFTDI (2)	5

**Record of Training Courses conducted for the participants of OECS countries under the RTCPP  
(FISH PROCESSING)**

\* L/E ----- Long Term Expert, S/E ----- Short term Expert, C/P ----- Counterpart, (F/O) ----- Involvement of Fisheries Officer

No.	Subject	Duration of Training Course	Instructors	Venue	Target Group	No. of Trainees (F/O)
1	Fish Handling Salting, Drying Smoking, and Quality Control & Quality Assurance	20/1 - 19/2/98	L/E, S/E, C/P	CFTDI	Fisheries Personnel from Dominica, Grenada, St. Lucia and St. Vincent	4
2	Fish Handling, Processing of Salted Tuna and Microbiology	22 - 28/3/98	L/E	Grenada	Staff of Fisheries Division, Grenada Commercial Fisheries Ltd. and Private Enterprises	11
3	Fish Handling Salting, Drying Smoking and Surimi Products	16/11 - 11/12/98	L/E, S/E, C/P	CFTDI	Fisheries Personnel from Barbados, Dominica, Grenada, and St. Vincent	4
4	Fish Handling, Smoking and Plant Sanitation	8 - 13/3/99	L/E, C/P	Antigua & Barbuda	Staff of Fisheries Division & Antigua Fisheries Ltd.	9
5	Fish Handling, Processing and Plant Sanitation	15 - 20/3/99	L/E, C/P	St. Kitts & Nevis	Staff of Fisheries Division & Fishermen	22
6	Seafood Handling, Processing and Preservation Technology	4 - 29/10/99	L/E, C/P	CFTDI	Fisheries Personnel from Antigua & Barbuda, Barbados, Dominica, Grenada, St. Kitts & Nevis, St. Lucia and St. Vincent	7
7	Quality Control & Quality Assurance, Chilled, Frozen and Cured Fishery Products	24 - 30/1/00	L/E, C/P	Barbados	Staff of Fisheries Division, Market Division, Fisherfolk Organization and Processors	15
8	Fish Handling, Processing and Plant Sanitation	13 - 19/3/00	L/E, C/P	St. Lucia	Staff of Fisheries Division & Processors	15
9	Fish Handling, Processing, Preservation, Plant and Laboratory Evaluation	2 - 27/10/00	L/E, S/E, C/P	CFTDI	Fisheries Personnel from Antigua, Barbados, Dominica, Grenada, St. Kitts, St. Lucia and St. Vincent	7
10	Fish Handling, Processing and Plant Sanitation	22 - 28/1/01	L/E, C/P	Grenada	Vendors & Staff of Fisheries Division	
11	Fish Handling, Processing and Plant Sanitation	5 - 11/2/01	L/E, C/P	St. Lucia	Vendors & Staff of Fisheries Division	

### Number of Trained Personnel by the Project

Table 1

TT/OECS	Fishing Technology	Marine Engineering	Fish Processing	Total
Trinidad and Tobago	442	466	257	1165
OECS Countries	132	144	94	370
Total	574	610	351	1535

## Receiving of RTCPP Participants at CFTDI Yearly

Table 1

Country	1997	1998	1999	2000	Total
Grenada	2	4	3	3	12
Dominica	2	3	3	3	11
St. Lucia	2	3	3	3	11
St. Vincent	1	2	3	3	9
Antigua & Barbuda		2	2	3	7
Barbados		3	3	3	9
St. Kitts & Nevis			3	3	6
<b>Total</b>	<b>7</b>	<b>17</b>	<b>20</b>	<b>21</b>	<b>65</b>

Table 2

Area	1997	1998	1999	2000	Total
Fishing Technology		6	6	7	19
Marine Engineering	3	7	7	7	24
Fish Processing	4	4	7	7	22
<b>Total</b>	<b>7</b>	<b>17</b>	<b>20</b>	<b>21</b>	<b>65</b>

## Number of Persons trained in RTCPP by Dispatch of Expert and Counterpart

Table 4

Area	1997	1998	1999	2000	Total
Fishing Technology	35	34	44		113
Marine Engineering	39	24	58		120
Fish Processing	11	27	32		72
<b>Total</b>	<b>85</b>	<b>85</b>	<b>134</b>		<b>305</b>

## Receiving of RTCPP Participants at CFTDI in Area

Table 3

Country	Fishing Technology	Marine Engineering	Fish Processing	Total
Grenada	3	5	4	12
Dominica	3	4	4	11
St. Lucia	3	4	4	11
St. Vincent	3	3	3	9
Antigua & Barbuda	2	3	2	7
Barbados	3	3	3	9
St. Kitts & Nevis	2	2	2	6
<b>Total</b>	<b>19</b>	<b>24</b>	<b>22</b>	<b>65</b>

## Record of RTCPP (Dispatch of Expert and Counterpart)

Nov. 2000

Table 5

Country	Area	Training Program	1997	1998	1999	2000	No. of Participants
Grenada	Fishing Technology	Vertical Longline, Bottom Longline	35				35
	Marine Engineering	① Outboard Engine Maintenance ② Diesel Engine Maintenance	① 31		② 10		41
	Fish Processing	Quality Control, Quality Assurance	11			△	11
Dominica	Fishing Technology	Vertical Longline, Bottom Longline			20	△	20
	Marine Engineering	Gasoline & Diesel Outboard Engine Maintenance		16			16
	Fish Processing						
St. Lucia	Fishing Technology	Vertical Longline, Bottom Longline, FAD		23			23
	Marine Engineering	Outboard Engine & Diesel Engine Maintenance	8				8
	Fish Processing	Fish Handling, Quality Control, Chilling & Freezing			15	△	15
St. Vincent	Fishing Technology	Diamondback Squid Fishing				△	
	Marine Engineering	① Diesel Engine Maintenance ② Outboard Engine Maintenance		① 8	② 21		29
	Fish Processing						
Antigua and Barbuda	Fishing Technology	Vertical Longline, Bottom Longline				△	
	Marine Engineering	Outboard Engine Maintenance			26		26
	Fish Processing	Fish Handling, Quality Control, Smoking		9			9
Barbados	Fishing Technology	Vertical Longline, Bottom Longline		11			11
	Marine Engineering	Diesel Engine Maintenance				△	
	Fish Processing	Fish Handling, Chilling & Freezing, Quality Control			15		15
St. Kitts and Nevis	Fishing Technology	Vertical Longline, Bottom Longline			24		24
	Marine Engineering	Outboard Engine Maintenance				△	
	Fish Processing	Fish Handling, Quality Control & Quality Assurance		22			22
No. of Participants			85	89	131	△	305

## RTCPP Provision of Equipment

Table 6

Nov. 2000

Country	Area	Equipment	1997	1998	1999	2000
Grenada	Fishing Technology					
	Marine Engineering	① Outboard Engine, Special Tools, Oil Press, etc ② Diesel engine spare parts for the fishing vessels donated under the Japanese Grant Aid.	①		②	
	Fish Processing	Knives, whetstones, scalers, plastic cutting boards, boots, aprons, etc				○
Dominica	Fishing Technology	① Vertical Longline Gear Materials ② Gear Materials for Diamondback Squid and Vertical Longline, GPS			○	②
	Marine Engineering	Diesel Outboard Engine, Special Tool Kit	○			
	Fish Processing					
St. Lucia	Fishing Technology			○		
	Marine Engineering					
	Fish Processing	① Auto Vacuum Packer ② Chest Freezer, Ice Machine ③ Knives, whetstones, scalers, plastic cutting boards, boots, aprons, etc		①	②	③
St. Vincent	Fishing Technology	Diamondback Squid Fishing Gear Materials, GPS				○
	Marine Engineering	Outboard Engine, Special Tool Kit, Diesel Engine spare parts for the fishing vessels donated under the Japanese Grant Aid.			○	
	Fish Processing	Chest Freezer, Fumigator with Transformer	○			
Antigua and Burduda	Fishing Technology	Gear Materials for Diamondback Squid and Vertical Longline, GPS, etc				○
	Marine Engineering	① Special Tool Kit for Outboard Motors ② Outboard Engine and Tools		①	②	
	Fish Processing	Auto Vacuum Packer		○		
Barbados	Fishing Technology	Vertical Longline Gear Materials		○		
	Marine Engineering	① Measuring Tools for Outboard Motors ② Outboard Engine, Special Tools, etc		①		②
	Fish Processing	① Salinometer, PH meter ② Chest Freezer, Ice Machine		①	②	
St. Kitts and Nevis	Fishing Technology	Vertical Longline Gear Materials, GPS, etc			○	○
	Marine Engineering	Outboard Engine, Special Tool Kit, Measuring Tools, etc				
	Fish Processing			○		



This questionnaire was distributed to 46 exparticipants who participated in the RTCPP Training Course at CFIDI however only 22 exparticipants returned the questionnaires.

No. 1

EVALUATION QUESTIONNAIRE  
ON THE REGIONAL TECHNICAL COOPERATION PROMOTION PROGRAMME (RTCPP)  
by the Ex-participants  
**FISHING TECHNOLOGY**

1. Technical Training based on the Project

- 1) Please describe with specific examples the training subjects which were useful and are effectively utilised for your own work.

**Vertical Longline, Construction of FADs, Bottom Longline - to assist fishermen to refine their modified versions of the longline.**

- 2) Please describe respectively the training subjects you feel are extremely important and also unimportant for future training courses.

**All subjects taught were important.  
Longline for surface pelagics species along with the vertical longline for demersal species.  
Squid Fishing.  
First Aid.  
Marketing of Products.**

- 3) What is your experience in exchanging information and in promoting the mutual understanding with other participants in the training courses.

**Each person was allowed to make his contribution and suggestions by all fellow trainees were welcomed.**

- 4) Comments and requests for the implementation of training courses in the future.

**Introduction of other subjects in relation to information on the life cycle of specific species.  
Training period should be at least 3 months.  
More participants should participate who are directly involved in training fishermen.**

2. Dispatch of JICA experts and counterparts

- 1) Was the training course or the workshop conducted by the JICA experts and counterparts useful or not so useful ? Please state reasons if it was useful.

**Very useful, provided fishers with new information on fishing techniques and provided them with an adequate type of fishing. Introduced fishermen to a more economical way of fishing and also targeting a wider variety of fish.**

**Quite useful, as in some countries surface longline is not very common so workshop was very useful.**

- 2) If the technology that was transferred is usefully utilised, please give specific examples.

**Vertical Longline fishing method is used quite frequently with satisfactory results.**

**Technology is being utilised fully especially vertical longline and the construction of simple and in-expensive type fads.**

- 3) Have you organized training courses or workshops after the implementation of the workshop by JICA Experts and counterparts in your country? If the answer is "yes", please describe the program, targeted group, number of participants and number of implementation training courses.

**two participants answered no**

**Grenada - targeted group - young males 17 - 25, 8 persons, 4 training courses**

**Dominica - vertical longline - module 1 - target group, fishermen, number targeted - 12, total courses - 5**

- 4) Please state your impression on the performance of Japanese Experts and Counterparts.

**beyond to describe their performance, commendable performance, very good, adapted well to local conditions, language barrier a problem, but good.**

- 5) Comments and requests for the dispatch of JICA experts in the future.

**Training in other fishing methods of fishing technology be**

**made Available.  
Dispatch Experts for two weeks.**

**3. Provision of Equipment**

- 1) As you are aware, the equipment is provided in direct relation to the activities of ex-participants of the training course or for the transfer of technology through the dispatch of JICA experts. In this regard, has the Project provided appropriate equipment so far?

**Reasonable, quite useful.  
Grenada - not aware of equipment provided.**

- 2) Has the equipment provided by the Project effectively or usefully utilised even after the implementation of workshop by JICA experts and counterparts?

**Grenada - Not aware of equipment received.  
Equipment not utilised as often as would be desired.**

- 3) Comments and requests for the provision of equipment in the future.

**Non-governmental organizations would like to obtain equipment, at present all requests for equipment must be handled by the Ministry.**

- 4) Overall what should be considered for RTCPP in the future.

**Introduction of topics such as navigation, seamanship, first aid, quick fix engine repairs.  
Duration of the course should be 2-3months, to enable the full understanding by participants.  
Bait catching and further training should be considered for participants.**

EVALUATION QUESTIONNAIRE  
ON THE REGIONAL TECHNICAL COOPERATION PROMOTION PROGRAMME (RTCPP) by  
Ex-participants  
**MARINE ENGINEERING**

1. Technical Training based on the Project

- 1) Please describe with specific examples the training subjects which were useful and are effectively utilised for your own work.

**Maintenance of diesel engines, Repair of diesel engines, fibreglass construction, outboard motors, assisting fishermen in carrying out minor and major repairs on their engines; as an inspector of vessels, it is important to be on top of recent developments in technology.**

- 2) Please describe respectively the training subjects you feel are extremely important and also unimportant for future training courses.

**Refrigeration and air-conditioning repairs and maintenance; gas and arc welding; maintenance and care of inboard and outboard motors, marine engines, FRP Technology; safety at sea.**

- 3) What is your experience in exchanging information and in promoting the mutual understanding with other participants in the training courses.

**Good experience**

- 4) Comments and requests for the implementation of training courses in the future.

**More time allocated for practical work  
Better accommodation and meals  
Training in the area of vessel inspection, wooden and fibreglass construction and design.**

2. Dispatch of JICA experts and counterparts

- 1) Was the training course or the workshop conducted by the JICA experts and counterparts useful or not so useful ? Please state reasons if it was useful.

**Very useful, fishers and mechanics were made up to date on new equipment methods of repair and resources.  
In a better position to advise boat owners as problems arise.**

- 2) If the technology that was transferred is usefully utilised, please give specific examples.

**Engine overhaul has been improved because we can now assist owners in taking accurate measurements of critical engine parts to determine replacement.**

**Work has been carried out on many vessels, small and large. Subjects taught has been very effective in the field of work.**

**Trouble shooting outboard motor maintenance.**

**General servicing schedule for outboard motors.**

- 3) Have you organized training courses or workshops after the implementation of the workshop by JICA Experts and counterparts in your country? If the answer is "yes", please describe the program, targeted group, number of participants and number of implementation training courses.

**three participants answered no; one answered assistance has been given to individual fishermen with engine problems on a regular basis.**

**Dominica - Outboard motor trouble shooting, target group - fishermen, number of courses implemented 15.**

- 4) Please state your impression on the performance of Japanese Experts and Counterparts.

**Language barrier a problem, but counterparts assisted and performed well.**

**Experts did a great job of transferring information.**

- 5) Comments and requests for the dispatch of JICA experts in the future.

**For countries without a vessel, one should be dispatched**

**with the Experts.**

**A need for Experts in boat building and marine electronics. Seminars should be conducted for fishermen skippers of fishing vessels donated by Japanese Grant Aid. Experts should be dispatched for a longer period.**

**3. Provision of Equipment**

- 1) **As you are aware, the equipment is provided in direct relation to the activities of ex-participants of the training course or for the transfer of technology through the dispatch of JICA experts. In this regard, has the Project provided appropriate equipment so far?**

**Yes, equipment is useful.**

**Appropriate equipment was provided but more is needed. Grenada - aware that equipment was provided in the past.**

- 2) **Has the equipment provided by the Project effectively or usefully utilised even after the implementation of workshop by JICA experts and counterparts?**

**Yes, but the equipment could be utilised further.**

- 3) **Comments and requests for the provision of equipment in the future.**

**JICA should work in relation with Fisheries Division to determine the equipment needed.**

**Antigua requires fishing vessel and outboard motor vessel.**

- 4) **Overall what should be considered for RTCPP in the future.**

**More time allocated for training programme and follow-up indepth study of specific subject areas should be considered.**

**Vessel construction - wood, FRP.**

**Marine Engineering indepth electronics and alignment etc.**

**Navigation and vessel inspection.**

**Management courses, refrigeration courses.**

**Modern fishing vessel design and construction.**

EVALUATION QUESTIONNAIRE  
ON THE REGIONAL TECHNICAL COOPERATION PROMOTION PROGRAMME (RTCPP)  
by the Ex-participants  
**FISH PROCESSING**

1. Technical Training based on the Project

- 1) Please describe with specific examples the training subjects which were useful and are effectively utilised for your own work.

**Hygiene & Sanitation, Proper Fish Handling and Storage Processing, Quality Control, Fish Identification and Preparation of Fish Fillets.**

- 2) Please describe respectively the training subjects you feel are extremely important and also unimportant for future training courses.

**All subjects taught were important and should continue to be taught in future training courses eg. Drying & salting, smoking, preparation of fish fillets, sanitation and quality management programmes, plant layout and operating procedures etc.**

- 3) What is your experience in exchanging information and in promoting the mutual understanding with other participants in the training courses.

**Good experience, appreciate the opportunity to interact and exchange ideas with participants of other countries on type of fisheries used, cultures etc.**

- 4) Comments and requests for the implementation of training courses in the future.

**More time allocated for practical work, especially in the areas of smoking and salting.  
Introduction of Safety at Sea Courses.  
Introduction of small scale fisheries economic management Course. Duration of six weeks  
Better living accommodation.**

**Topic - How to apply HACCP in all aspects of Fish Handling and Fish Chemistry.**

**More persons to participate in any course**

**2. Dispatch of JICA experts and counterparts**

- 1) Was the training course or the workshop conducted by the JICA experts and counterparts useful or not so useful ? Please state reasons if it was useful.

**Very useful, better equipped to pass on information to fishing communities. Learned to make new fish products.**

- 2) If the technology that was transferred is usefully utilised, please give specific examples.

**Yes the technology is being utilised in exhibitions, schools and in house and for the establishment of one's own business and the improvement in the sanitation of one's own business.**

**Plant workers are more aware of the consequences on non-compliance with sanitation and hygienic conditions. Better informed to help fellow fishermen.**

- 3) Have you organized training courses or workshops after the implementation of the workshop by JICA Experts and counterparts in your country? If the answer is "yes", please describe the program, targeted group, number of participants and number of implementation training courses.

**two participants answered no, one remarked that he held small group sessions and another said that they were attempting to conduct training courses every 3 months for 15 participants, target group - processing plants, fishermen and exporters.**

- 4) Please state your impression on the performance of Japanese Experts and Counterparts.

**Very good, high standard, creditable, professional and very knowledgeable, language barrier a problem but they are quite good, counterparts extremely knowledgeable, beyond expectation.**



- 5) Comments and requests for the dispatch of JICA experts in the future.

**Interested in more follow-ups.**

**Satisfied.**

**Longer dispatch period.**

**Expert should be better able to communicate in english.**

**Sessions should be conducted for fish vendors, boat builders and fishermen.**

**Dispatch of experts is vital for the execution of the program.**

### 3. Provision of Equipment

- 1) As you are aware, the equipment is provided in direct relation to the activities of ex-participants of the training course or for the transfer of technology through the dispatch of JICA experts. In this regard, has the Project provided appropriate equipment so far?

**Yes adequate**

**St. Kitts ex-participant not aware of equipment provided.**

**Dominica - yes, but insufficient to meet requirements to conduct in house training sessions.**

- 2) Has the equipment provided by the Project effectively or usefully utilised even after the implementation of workshop by JICA experts and counterparts?

**Yes**

**St. Kitts - equipment arrived too late.**

**Barbados - problems experienced utilizing the vacuum packaging machine during the January 2000 workshop.**

**Stabilising transformers are still required for both freezer and vacuum packaging machine before they can be utilized.**

- 3) Comments and requests for the provision of equipment in the future.

**Equipment should arrive on time, survey should be done first to established equipment needed for particular fields, equipment should be kept by fishers or cooperatives for use by fishers. Barbados requests salinometer for salting fish, Antigua requires a training vessel.**

- 4) Overall what should be considered for RTCPP in the future.

**JICA should visit and assist in determining training needs and equipment.**

**Programmes should be conducted in Japan, since Japan has better resources than countries in the region.**

**Longer training and exchange programmes.**

**Programmes should be conducted twice per year.**

**The RTCPP should continue.**

**Educating fishing communities to better manage marine resources, management of finances.**

Nov. 2000

**RESULT OF EVALUATION BY THE PARTICIPANTS  
OF THE RTCPP TRAINING COURSE**

Question	Comment	Fishing Technology	Marine Engineering	Fish Processing
Were you aware of the objectives of the Training Course?	Fully Partially Not at all		20 4	14 9
How do you feel about the Training Program?	Very satisfied Satisfied Fairly satisfied Not satisfied		13 8 3	11 11 1
How do you rate the amount of time made available for the Training Course?	Far too much Too much Just right Too little Far too little		13 11	1 2 9 10 1
How do you rate the institutional level of the sessions for the course?	Far too high Too high Just right Too low Far too low		24	3 12 1
How do you rate the balance between lectures and discussions/practical?	Far too many lectures Too many lectures Just right Too many dis/prac Far too many dis/prac		24	2 5 16
How do you rate the importance of the course for your own work?	Very high High In between Low Very low		12 8 4	13 8 2
How do you rate the relevance of the background material distributed to the participants (reports, books, lecture notes, etc.)?	Highly relevant Quite relevant About right Not very relevant Irrelevant		10 6 4 4	19 2 1 1
Describe the duration of the sessions.	Far too long Too long Just right Too short Far too short		19 5	1 1 12 2
Describe the size of the group.	Far too large Too large Just right Too small Far too small		1 21 2	11 4

Question	Comment	Fishing Technology	Marine Engineering	Fish Processing
The theoretical level was:	Far too high Too high Just right Too low Far too low		24	21 1 1
The practical level was:	Far too complicated Too complicated Just right Too simple Far too simple		24	23
What are your views on the training facilities?	Excellent Good Fair Poor			3 6
How do you feel about the organization of the course?	Interesting Stimulating Informative None of the above			4 1 10 1
How do you rate the teaching methods for lecture used in the course?	Very effective Effective Not effective			4 5
How do you rate the teaching methods for practical used in the course?	Very effective Effective Not effective			6 2
The amount of theoretical lecture was:	Far too much Too much Just right Too little Far too little			1 7 1
The amount of practical work was:	Far too much Too much Just right Too little Far too little			6 3
The programming of the activity was:	Far too rigid Too rigid Just right Too lax Far too lax			9
How much free time was available?	Far too much Too much Just right Too little Far too little			5 3 1

**EVALUATION OF TRAINING SUBJECTS  
BY PARTICIPANTS  
FISHING TECHNOLOGY**

Nov. 2000

Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Set Net Fishing (Masu-ami)	Duration of the session	Too long			
		Just right	9	3	8
	Content of the session	Too short	4	3	5
		Very satisfied	7	3	7
Level of the session	Satisfied	6	3	5	
	Not Satisfied			1	
Pot Fishing	Duration of the session	High	3	1	2
		Just right	10	5	11
		Low			
	Importance for the development of fishing technology in your country	High	11	6	11
In between		1		1	
Low		1		1	
Pot Fishing	Duration of the session	Too long			
		Just right	10	8	8
	Content of the session	Too short	3	5	5
		Very satisfied	7	6	6
Level of the session	Satisfied	6	7	6	
	Not Satisfied			1	
Pot Fishing	Duration of the session	High	4	2	3
		Just right	9	11	10
		Low			
	Importance for the development of fishing technology in your country	High	12	12	13
In between		1	1		
Low					

Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Pelagic Longline Fishing	Duration of the session	Too long			
		Just right	5	2	7
		Too short	8	4	6
	Content of the session	Very satisfied	5	2	7
Satisfied		6	4	5	
Not Satisfied		2		1	
Level of the session	High	4	2	3	
	Just right	9	4	9	
	Low				
Importance for the development of fishing technology in your country	High	13	6	13	
	In between				
	Low				
Vertical Longline Fishing	Duration of the session	Too long			1
		Just right	15	13	13
		Too short	4	6	5
	Content of the session	Very satisfied	9	8	12
Satisfied		10	11	7	
Not Satisfied					
Level of the session	High	5	4	6	
	Just right	14	15	13	
	Low				
Importance for the development of fishing technology in your country	High	15	16	17	
	In between	4	3	2	
	Low				

Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Bottom Longline Fishing	Duration of the session	Too long			1
		Just right	11	8	11
		Too short	8	11	7
	Content of the session	Very satisfied	9	10	8
Satisfied		10	9	11	
Level of the session	High	6	6	6	
	Just right	13	13	13	
	Low				
Importance for the development of fishing technology in your country	High	17	17	17	
	In between	1	1	1	
	Low	1	1	1	
Squid Fishing	Duration of the session	Too long			
		Just right	3	3	3
	Content of the session	Too short	4	4	4
		Very satisfied	3	3	3
Satisfied		3	3	1	
Level of the session	Not Satisfied	1	1	3	
	High	1	2	2	
Importance for the development of fishing technology in your country	Just right	6	5	5	
	Low				
	High	4	5	4	
	In between	1		1	
	Low	2	2	2	

Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Fish Aggregating Device (FAD)	Duration of the session	Too long Just right Too short	5 1	6	6
	Content of the session	Very satisfied Satisfied Not Satisfied	3 3	4 2	3 3
	Level of the session	High Just right Low	1 5	1 5	6
	Importance for the development of fishing technology in your country	High In between Low	6	6	6
Basics of Net Handling	Duration of the session	Too long Just right Too short	3 4	2 5	
	Content of the session	Very satisfied Satisfied Not Satisfied	2 5	2 3 2	
	Level of the session	High Just right Low	2 5	1 6	
	Importance for the development of fishing technology in your country	High In between Low	6 1	6 1	



Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Basics of Rope Handling	Duration of the session	Too long			
		Just right	6	11	
		Too short	1	2	
	Content of the session	Very satisfied	5	10	
		Satisfied	2	3	
		Not Satisfied			
Level of the session	High	3	9		
	Just right	4	4		
Low					
Importance for the development of fishing technology in your country	High	7	13		
	In between				
	Low				
Fishing Gear Material	Duration of the session	Too long			
		Just right	5		
		Too short	2		
	Content of the session	Very satisfied	2		
		Satisfied	3		
		Not Satisfied	2		
Level of the session	High	3			
	Just right	4			
Low					
Importance for the development of fishing technology in your country	High	5			
	In between	1			
	Low	1			

Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Basic Computations for Gear Construction	Duration of the session	Too long	3 4		
		Just right			
	Too short				
	Content of the session	Very satisfied Satisfied Not Satisfied	5 2		
Level of the session	High	3			
	Just right Low	4			
Importance for the development of fishing technology in your country	High	5			
	In between	1			
	Low	1			
Basics of GPS and Fish Finder	Duration of the session	Too long	7		
		Just right			
		Too short			
	Content of the session	Very satisfied Satisfied Not Satisfied			
Level of the session	High	2			
	Just right	5			
	Low				
Importance for the development of fishing technology in your country	High	7			
	In between				
	Low				

Training Subject	Question	Comment	Lecture	Gear Construction Practice	Onboard Fishing Practice
Marketing of Fresh Tuna	Duration of the session	Too long Just right Too short	1 3 2		
	Content of the session	Very satisfied Satisfied Not Satisfied	2 2 2		
	Level of the session	High Just right Low	2 4		
	Importance for the development of fishing technology in your country	High In between Low	5 1		
Trolling	Duration of the session	Too long Just right Too short			6
	Content of the session	Very satisfied Satisfied Not Satisfied			6
	Level of the session	High Just right Low			6
	Importance for the development of fishing technology in your country	High In between Low			6



#### 4 .広域技術協力推進事業実績



「広域技術協力推進事業」

- ・対象の東カリブ7か国：セント・クリストファー・ネイヴィース、アンティグア・バーブーダ、ドミニカ、セント・ルシア、セント・ヴィンセント、バルバドス、グレナダ
- ・効果：導入した漁法が漁民に定着した国もあり、各国から高い評価を得た。
- ・裨益者：研修員受入れ（延べ65名）、専門家派遣による研修会実施（延べ413名受講）。

広域技術協力推進事業実績

(1997年～2001年)

