パキスタン国
海上安全対策専門家要請背景
調査報告書

平成2年7月

国際協力事業団

はじめに

パキスタン政府は，1985年に「1979年の海上における捜索及び救助に関する国際条約」を批准した。この条約の最終目標は全世界的な海難救助体制の確立であり，パキスタン政府は国際海事機関（IMO：International Maritime Organization）の要請を受けてアラビア海北西部の海上捜索・安全に必要な情報を収集・提供する等，同海域の捜索救助体制確立のために積極的に貢献していくこととなった。

他方，パキスタンは東西の海上交通上の要地にありながら，同国の海上安全体制は決して十分なものとは言えず，船舶航行の安全を図るためのシステム及び施設の整備は重要な課題となっている。

このような状況にあって，パキスタン政府からわが国に対し，捜索救助，海上防災，海洋汚染防止，航路標識に係る専門家派遣要請が提出された。

しかしながら，同国政府からの要請書及び関連資料等では要請内容・背景が不明確であり，わが方が同国のニーズに対応する的確な協力を行うには不十分であった。

また，専門家派遣のみならず，今後の技術協力を行ううえでも本分野の基礎的情報収集を行うことは，有益であると判断されたため，平成元年12月16日から26日までの11日間にわたり，本調査団を同国に派遣し，要請の背景及び先方が希望している具体的な協力内容を調査すると共に，今後の専門家派遣をより効果的かつ円滑に実施するための協議を各関係機関と行った。

本報告書はこれらの調査及び協議の結果を取りまとめたものであり，今後の専門家派遣を含む海上安全関連技術協力の実施に資することが出来れば誠に幸甚である。

終わりに，本調査にご協力をいただいたパキスタン国政府関連機関，在パキスタン日本大使館，在カラチ日本領事館，外務省，運輸省，海上保安庁並びに関係各位に対し厚くお礼申し上げる。

平成2年7月

国際協力事業団
派遣事務部長
高橋　昭

目　　次

I　調査団の目的

1. 概　要

パキスタン国は，東西海上交通の要衝であり，我が国のタンカールートにもなっている。今般，このパキスタン国から，我が国に対し，同国の船舶交通安全を確保するため，航路標識の整備及び海難捜索救助・海上防災の体制整備に関する専門家の派遣要請があったので，調査団を派遣して，パキスタン国の海上保安施設・体制等当該専門家派遣要請の背景を調査し今後のより効果的な技術協力実施の参考に資する。

2. 要請内容

(1) 航路標識

光波／電波標識の専門家　　1名（1カ月）

・灯台設置のための沿岸調査

・安全航海のための適正設置灯台数

・現存灯台の改善

・デッカ局の設置

(2) 海上保安，捜索救助，海洋汚染防止

捜索救助，海上防災／公害の専門家　　3名（1ヵ月）

・捜索救助センター

・海洋汚染対策

・港内火災に対する組織と機材に関する助言

（資料1－1「A1フォーム」　参照）

II　調査団の構成

総　括	早船　猷司	海上保安庁警備救難部救難課補佐官
海上保安	藤岡　貞男	海上保安庁灯台部監理課航行援助システム企画室専門官
海上保安	野田　正三	海上保安庁 総務部国際課国際協力係長
派遣計画	稲積　　忍	運輸省国際運輸・観光局国際協力課協力第一係
派遣計画	西本　　玲	国際協力事業団派遣事業部派遣第一課

III　調査期間及び日程

期　間：平成元年12月16日～26日（11日間）

日　順	月　日	調　査　内　容
日　程：第１日	12月16日(土)	移動（東京→イスラマバード）
第２日	17日(日)	〃
		10：00　ＪＩＣＡ事務所表敬訪問及び打合せ※
		11：00　経済省 Iqbal 局長表敬訪問※
		12：30　国防省 Khalid 次官補表敬訪問※
		14：00　運輸省 Anwar 次官補表敬訪問※
		15：00　大使館表敬訪問※
第３日	18日(月)	移動（イスラマバード→カラチ）
		11：00　総領事館表敬訪問※
第４日	19日(火)	09：00　港湾・海運局 Akbar 局長表敬訪問，全体会議※
		11：00　個別会議※
第５日	20日(水)	10：00　海上安全庁 Hussain 長官表敬訪問※
		11：00　カラチ港視察
		14：30　カラチ港湾公社との意見交換会
第６日	21日(木)	07：00　Monze 灯台視察（藤岡）※
		09：00　個別会議「海洋汚染，捜索救助，海上防災」（早船，野田，西本）※
		水路部見学（稲積）
		11：00　コーストガード訪問（早船，野田，西本）※
		14：00　最終会議※
第７日	22日(金)	資料整理
第８日	23日(土)	10：00　商船大学視察
		13：30　調査団主催昼食会
第９日	24日(日)	10：00　総領事館報告
		移動（カラチ→クアラルンプール）
第10日	25日(月)	〃　（飛行機運航遅延のためクアラルンプールで待機）
第11日	26日(火)	〃　（クアラルンプール→東京）

（※：各訪問先における面談者については，資料２－１「訪問先及び関係者リスト」参照）

Ⅳ　パキスタンの概要

1. 一　般

正式名称：パキスタン回教共和国（Islamic Republic of Pakistan）

首　　都　イスラマバード

政　　体：連邦共和制

略　　史：1947年８月14日イギリス領インドから分離独立

1971年　　東パキスタンがバングラデシュとして分離独立

元　　首：グーラム・イスハフ・カーン大統領（首相：ベナジール・ブット首相）

面　　積：804千平方キロ（日本の約２倍）

人　　口：１億382万人（1988年推定）

宗　　教：イスラム教（97％）

公 用 語：ウルドゥー語，英語

識 字 率：23.3％

通　　貨：パキスタン・ルピー（１ルピー＝約７円）

議　　会：上院(Senate)87名　　任期６年

下院（National Assembly）237名　任期５年

2. 政治・外交

ハック大統領が1988年８月17日に飛行機事故で急逝後，11月に総選挙が実施され，ベナジール・ブット党首率いるパキスタン人民党（ＰＰＰ）が第一党となった。これを受けて，ベナジール・ブット女史が党首に指名され，また大統領選挙でイスハク・カーン大統領代行が新大統領に選出された。

外交面では非同盟，回教諸国との連帯，親中国・西側諸国外交を基本としている。また，南アジア地域協力連合（ＳＡＡＲＣ）の加盟国であり，インドを除く南アジア諸国との関係は基本的には良好である。対印関係についても，昨年末のＳＡＡＲＣ首脳会議においてガンジー・ブット会談が行われ，関係回復の兆しが表われている。なお，パキスタン国内には，310万人のアフガン難民が存在している。我が国との関係については，貿易・経済・技術協力を中心にして関係は良好である。

3. 経　　済

恒常的な貿易収支の赤字及び財政赤字を抱えているものの，77年～85年の間実質ＧＤＰ成長率が６％以上となっている。

赤字分は外国からの援助や海外出稼ぎ者からの送金により補われてきているが，近年海外からの送金金額は減少傾向にあるため，輸出の増加と多様化が課題となっている。また，開発予算は外国援助や各種国債に依存している。

最近の経済指標（1987／88年度）をみると，ＧＮＰは480億ドル，１人当たりＧＮＰは393ドル，実質経済成長率は4.9％，失業率は3.0％となっている。主要産業は農業と綿工業であり，輸出品目も綿及び綿製品，米等が中心となっている。

4. 我が国との運輸関係国際協力実績

(1) 有償資金協力

昭和53年度：海運増強事業（180億円）

パ国の外航海運増強のため，各15,000ＤＷＴの一般貨物船７隻（うち１隻は現地建造）及び現地建造の資機材等の調達

昭和55年度：鉄道輸送力増強事業(I)（90億円）

ディーゼル機関車38両の調達

昭和56年度：海洋開発事業（30億円）

船舶安全航行確保，港湾整備の円滑化のため，水路調査，海図作成等を行う水路調査船１隻の調達

昭和57年度：機関車工場建設事業（97.6億円）

ディーゼル機関車製造工場１ヶ所の建設及び車両製造技術の移転サービスの調達

昭和60年度：鉄道輸送力増強計画(II)（148億円）

ディーゼル機関車60両の調達

昭和62年度：港湾浚渫事業（43.33億円）

カシム港と外洋を結ぶ航路の維持による港湾運営及び浚渫費用の軽減のため，3,500m^3ホッパー容量の新造浚渫船，測量船，作業ボート各１隻の調達

(2) 無償資金協力

昭和54年度：緊急輸送力増強計画（６億円）

カラチ港と内陸部間の貨物輸送に必要なトラック及びトレーラー各30台の供与

昭和55年度：自動車修繕維持センター機材整備計画（６億円）

修理工場，タイヤ再生工場及び修理用機材等の供与

昭和56年度：輸送力増強計画（10億円）

貨物輸送増強のため，トラック50台及び道路整備用車両（ブルドーザ等）の供与

昭和61年度：船員養成学校機材整備計画（５億円）

パキスタン船員訓練校の教育訓練機材（操船シミュレーター）の供与

昭和62年度：船員養成学校機材整備計画(II)（11億円）

パキスタン船員訓練校の教育訓練機材（機関シミュレーター）の供与

平成元年度：気象観測網整備計画（８億円）

カラチ及びイスラマバードの気象観測用レーダー２基の供与

(3) 技術協力

① 開発調査

・全国総合交通計画調査（56～58年度）

第６次５ヵ年計画（1983～88）策定のため，2000年を目標とした全国総合交通体系整備のマスタープランの作成並びに５ヵ年計画のプログラム立案とそのプレF／Sを実施

・全国総合交通計画調査（61～62年度）

第７次５ヵ年計画（1988～93）策定のため，56～58年度に実施したマスタープランの見直し（目標2005年）及び５ヵ年計画のプログラム立案とそのプレF／Sを実施

② 専門家派遣

下記案件について短期専門家を派遣している。

昭和55年度	造船（２名）	昭和62年度	航空（２名）
〃 56年度	水深調査（３名）	〃 63年度	船員養成，航空（４名）

③ 研修員受入れ

船舶，船員，港湾，鉄道，海上保安等の分野で毎年10名程度の研修員を受入れており昭和63年度は11名を受け入れている。海事関係の受入れ実績は以下の通り。

集団研修

港湾セミナー	11名
港湾工学	11名
コンテナ埠頭	１名
水路測量	６名
海洋物理調査	５名

個別研修

港湾事情視察	62年	１名

V　海上交通の現状

1. 保有船腹量

1988月3月末現在で保有している船舶数は23隻のみであり総排水量は370,766トンとなっている。保有船舶の老朽化は著しく，1987年現在で建造後5年以内の船は1隻という状況である。（資料3－1「保有船舶量リスト」，3－2「漁船統計」参照）

2. 船　員

登録船員数は13,859人であり，外国籍船舶に対する乗組員数は約5,000人と言われている。

3. 海上輸送

海上荷動きは全て外航海運に関するものである。荷動き量は輸出入を合せて現在2,000万トンを超えている。主な貨物は石油，鉄鉱石，小麦，食用油，セメント，鉄鋼，肥料である。

また，旅客船による巡礼者輸送がカラチとジェッダ間の定期航路で行われている。

4. 主要港湾概要

港湾設備はカラチのみであったが第5次5ヵ年計画でカラチ近郊のカシム港が完成した。運営は運輸省港湾・海運局（在カラチ）の下に Karachi Port Trast(K.P.T.) と Port Qasim Authority(P.Q.A.) の2つの公社が別々に行っている。

(1) カラチ港

カラチ港は，パキスタン港湾取扱い貨物量の8割強に達しており，パキスタン最大の貿易港となっている。1988／1989年現在で約1,800万トンの貨物を扱っている。（資料3－3「カラチ港パンフレット」参照）

(2) カシム港

カシム港は，カラチ港の南東53キロに位置している。輸入貨物のほとんどはパキスタン製鉄所むけの鉄鉱石と石炭である。将来石油ターミナルを建設する計画もある。

1988／1989年現在で約515万トンの貨物を扱っている。

（資料3－4，5「カシム港パンフレット（Ⅰ，Ⅱ）」参照）

VI　海上保安の現状

1. 組　織

(1) 概　要

パキスタン国の行政官庁は，運輸省等25省庁である。このうち，海上保安関係業務は，我が国の海上保安庁と異なり一元化されておらず，下記の省庁がそれぞれの業務を所掌している（資料４－１「質問状及び回答」参照）。

ア．運輸省港湾・海運局

港湾及び海運行政並びに海洋汚染防止，港内における海上防災，港内における捜索救助，海上交通の安全確保，航路標識の設置管理。

イ．海上安全庁

領海警備，海上紛争の警備，海上テロ対策，200海里漁業水域の警備，領海・経済水域内における捜索救助，港外における海上防災。

ウ．コーストガード

密輸を中心とする海上犯罪の取締り。

エ．海軍水路部

水路測量，海図・水路図誌の発行。

(2) 運輸省(Ministry of Communications)

運輸省には，道路・交通局(Road and Transport) 及び港湾・海運局(Port and Shipping)の２局があり，海上保安関係の業務は港湾・海運局が所掌している。

運輸省の官房組織及び道路・交通局はイスラマバードにあるが，港湾・海運局はカラチにあり，局長のもと，港湾・管理部(Port and Administration)，海運部(Shipping)及び計画部(Project)がある。また，港湾公社としてカラチ港湾公社とカシム港湾公社がある。

運輸省では，海上保安行政の他，港湾，海運，船員，道路・交通各行政を所掌しているが，我が国の運輸省が所掌している鉄道については鉄道省が，また，パキスタン航空の運航等航空行政については，国防省がそれぞれ所掌している。

運輸省港湾・海運局の所掌する海上保安業務については，上記のとおりであるが，1987年１月に創立された海上安全庁が，将来，これら海上保安業務を所掌することになると思われる。（資料４－２「運輸省組織図」，４－３「港湾・海運局組織図」参照)。

(3) 海上安全庁(Maritime Security Agency)

ア．1987年１月に捜索救助，公害等の海上保安業務を一元的に所掌する機関として設置された。国防省の一機関として設置されているが，組織，予算，定員等全てにおいて海軍と

は別組織となっている。

なお，将来的には，国防省から独立した機関となる予定である。

イ．所掌業務

領海警備，海上紛争の警備，海上テロ対策，200海里漁業水域の警備，捜索救助，海上防災，海洋汚染防止等を所掌している。但し，設立直後のことでもあり，また，十分な船艇，資機材及び人員も保有していないところから，現在のところ海上安全庁で全ての業務を実施することができず，海洋汚染防止，海上防災，捜索救助，海上交通安全確保，航路標識，水路等については，運輸省港湾・海運局，内務省（コーストガード）等がその能力に応じ業務を分担している。

ウ．組織・人員

カラチに本庁があり，パキスタン沿岸を東，中，西に分割，それぞれに管区本部が設置されている。

職員数は，本庁に約250人，管区本部・船艇等に約750人の合計約1,000人である。

エ．保有船艇・航空機

保有船艇の隻数は，6隻（約500トン型及び約250トン型等）である。本年以降も順次増強される予定であり，現在の計画では，8隻の整備が予定されているが，新造船の増強は無い模様。

航空機については，FOKKER 27を1機保有している。

（資料4－4「海上安全庁根拠法」，4－5「海上安全庁組織図」及び4－6「領海経済水域法」参照）。

(4) コーストガード(Coast Guard)

ア．創　　設

1971年に海上における密輸を中心とする海上犯罪の取締りを主目的として内務省(Ministry of Interior)内に創設された。

イ．所掌業務

別名「Anti-smuggling Agency」と呼ばれるように，領海内における密輸の取締り(200海里漁業水域については，海上安全庁が所掌する。）を主に行っているが，海上安全庁に協力して漁業の取締りも行っている。

また，密輸の取締りにあたっては，海上安全庁の他，税関及び警察の協力を得ている。

ウ．組織・人員

カラチに本庁があり，パキスタンを4つに分割した地域にそれぞれ管区本部(Subordinate Hqsと呼ばれている。）が設置されている。

職員の数は，本庁に約400人，管区本部等に約1,600人，計約2,000人である。

エ．保有船艇・航空機

保有する船艇としては、通信，レーダ設備を備えたガンボートと呼ばれる船が５隻，高速艇が12隻の計17隻である。また　この他にヘリコプター１機を保有している。

2．航路標識

(1) 現状・将来計画

ア．灯台等の設置状況

(ア) 沿岸部

パキスタン国は　東側のシンド州 Sir 河口から西側のバルチスタン州 Jiwani 岬までの間約250 浬（マイル）の海岸線を有しており，この海岸線に沿岸灯台６基が設置されており，更に，現在２基が建設中である。（資料 4－7「沿岸灯台の設置状況図」参照）

既設灯台６基のうち５基は，Jjwani 岬から Ormara 岬間のバルチスタン州沿岸に設置されており，いずれも1969年建造，光達距離15～17浬，ソーラー電源を使用した比較的新しい灯台で，各灯台には２名の保守管理の要員が常駐している。

１基はカラチ港西方約20浬の Cape Monze 灯台で1889年建造，光達距離25浬，商用電源を使用（非常用にケロシン）した大型灯台で要員９名が常駐している。

現在建設中の灯台２基(Turshian 灯台及び Sir Creek 灯台）は1990年６月完成予定，光達距離25浬の大型灯台で，これらが供用開始になれば，空白海域であるシンド州沿岸部をカバーすることができる。

しかし，パキスタン沿岸部は，灯台による２点方位はおろか，１点方位をとれない海域がかなり存在しており，このため空白海域を埋めるべく光達距離の拡大及び沿岸灯台の増設が計画されている。

更には，主要灯台に視界不良時にも利用できるレーダービーコン，レーマークビーコン及び中波ビーコン等の電波標識の整備，沖合を航行する船舶の安全と捜索・救難活動及び経済水域の監視・取締り等に有効な大規模電波標識（デッカ又はロランＣ）の整備について検討がなされている。

また，定期的な巡回点検，故障時の早期復旧等に対応する灯台見回り船の建造及び灯台と事務所間の無線連絡回線の整備が必要とされている。

（資料４－８「航路標識整備の将来計画」参照）

(イ) 港　　内

カラチ港（航路の長さ約７km）には，灯台３基，導灯１基及び灯浮標27基が設置されている。

カラチ港口の西側に設置されているManora灯台は1889年建造，光達距離26浬の大型

灯台でケロシンを電源とし７名の要員が常駐している。

他の灯台２基及び導灯はカラチ港口に設置，無人で運用されている。

カシム港（航路の長さ約45km）は灯台９基，導灯１基（レーコン付設），灯浮標75基が設置され，港内の可航路を示している。

更に，カシム港口南側に Khnddi Is. 灯台（光達距離17浬）があり，２名の要員が常駐している。（資料Ⅵ－９」灯台表」参照）

両港とも多数の灯浮標が設置されており，電源をガスから電池又は波力等による変換や標体の材質向上が計画されているほか，設標船（ブイテンダー）及び浮標基地（ブイベース）の更新，改修が検討されている。

イ．組織・定員

航路標識の設置・管理は，運輸省港湾・海運局の所掌であるが，沿岸部については，海運部（Shipping）の灯台課（Light House Department）が，港内については，港湾・管理部（Ports and Administration）のカラチ港湾公社とカシム港湾公社の Harbour Master 部門がそれぞれ担当している。

沿岸部の航路標識を所掌する海運部灯台課は総勢８名で，課長（Super Intendent）及び主任技術官（Engineer & Ship Surveyor）は海運部商船海事課（POMMD:Principal Officer Mercantile Marine Department）の所掌事務を兼務している。

（資料４－10「運輸省港湾・海運局海事部灯台課組織図」参照）

ウ．予　　算

予算は，灯台等の新設，改良改修に充てる整備費と塗装，機器の購入及び保守管理要員の給与，食料費に充てる維持費からなっている。因みに1989年の整備費は1,091千Rs（約700万円），維持費は80～90万Rs（560～630万円）となっている。

同国は，入港船舶に灯台利用税を課しており，入港時に25セント/純トン（Net Ton）を徴収しているが，灯台利用税が全て航路標識の整備・維持管理に必要な経費に充てられていない。

(2) 検討事項

パキスタン国における今後の航路標識の整備については，資料４－８「航路標識整備の将来計画」に記載されているが，今後，次の事項について検討していく必要があろう。

ア．光波標識の充実

・沿岸灯台の光達距離の拡大

・光波標識の適正配置計画及び規模・性能

イ．電波標識の整備

・主要な灯台及び灯浮標にレーマークビーコン，レーダービーコンの付設

・中波ビーコンの整備

・精度，利用範囲，世界的動向等を勘案したパキスタン国の経済水域をカバーできる大規模な電波標識（デッカ，ロランＣ等）の整備

ウ．維持管理体制の強化

・灯台見回り船及び車両等機動力の整備

・灯台～事務所間の通信連絡回線の整備

・ブイテンダー及びブイベースの改修等支援システムの強化

エ．航路標識関係技術要員（特に電子技術者）の養成

3. 捜索救助

(1) 現状・将来計画

ア．海難発生状況

パキスタン周辺海域はモンスーン時期を除き，比較的穏やかであり，海難発生件数はそれほど多くない。

運輸省統計（資料4－11「1986～1988年の海難」参照。）によれば，海難発生件数は1986年が14件，1987年が3件，1988が19件で，死亡・行方不明者数は1986年が5名，1987年が0名，1988年が5名となっている。

なお，本統計には小型漁船の海難が含まれておらず，実際の海難件数はこれを大きく上回るとの説明が港湾・海運局からなされたが，いずれにしてもさほど多くはない模様。

イ．組　　織

捜索救助を担当する部局としては運輸省港湾・海運局を挙げることができる。1979年ＳＡＲ条約も同局が中心となって批准しており，また，ＩＭＯの暫定ＳＡＲ計画の中でもパキスタンの捜索救助担当部局としては港湾・海運局が登録されている。但し，港湾海運局は捜索救助の企画・調整を行うだけで，実際の救助活動は港湾公社の船艇や海軍の船艇・航空機が活用されてきた。

1987年1月に海上安全庁（ＭＳＡ）が創設され，捜索救助を担当することとなったことから，今後は，企画・調整機能を含め，ＭＳＡが捜索救助担当部局として機能することとなるものと思われるが，現在のところ，港湾・海運局とＭＳＡの間で調整はなされておらず双方ともに本件について積極的に対応する意向を有している。

調査時点では，ＭＳＡの勢力がまだ十分でないこともあり，港内は港湾・海運局（実際の救助活動は港湾公社），領海・経済水域はＭＳＡということで捜索救助を分担している。

なお，救命艇協会，水難救済会に類する民間の海難救助機関は当国には存在しない。

また，パキスタンの海上捜索区域は，(1)〔イラン・パキスタン国境〕，(2)〔23°00′N 61°30′E〕，(3)〔20°00′N，61°30′E〕，(4)〔20°00′N，60°00′E〕，(5)〔12°00′N，60°00′E〕，(6)〔12°00′N，63°00′E〕，(7)〔インド・パキスタン国境〕で囲まれる海域でパキスタンの経済水域のみならず他国の経済水域も担当している。

ウ．勢　　力

ＭＳＡ，港湾公社の船艇・航空機のほか，海軍，民間等の船艇が必要に応じて使用される。

ＭＳＡについては，その勢力を拡大すべく努力を続けている。

エ．通　　信

カラチRadioが国際遭難周波数を聴取するとともに，カラチ，カシム両港の港湾公社がＶＨＦを聴取している。各部局間の連絡は電話，テレックス，ファックスで行われる。

将来的にはインマルサット地球局設置を含めGMDSSへの対応が検討されている。

オ．そ の 他

パキスタン沿岸には約13隻の沈船が存在する。直接，航行の障害となっているものはないが，同国はこれからの沈船を引揚げるサルベージ能力を保有することを希望している。（資料4－12「沈船場所一覧」参照）

(2)　検討事項

パキスタンにおけるＳＡＲ能力の強化についてはパキスタン港湾・海運局のペーパー（資料4－13「海洋汚染防止及びＳＡＲに関するワーキングペーパー(I)」参照。）及びオーストラリアの専門家の報告書（資料4－14「パキスタンにおけるＳＡＲに関する地域的調整」参照）に記載されているが，次の分野についてＭＳＡを中心とする体制強化を検討していく必要がある。

ア．救助調整本部（MRCC）を含む組織の在り方

イ．救助勢力

ウ．ＭＳＡの管区本部間及びＳＡＲ関係機関との通信能力の強化

エ．GMDSSに対応したＳＡＲ通信体制

オ．コンピューターを活用した船位通報制度，NAVAREAを含む海洋情報システム

カ．ＳＡＲ要員教育の必要性

キ．カシム港における航行管制の必要性

ク．サルベージ能力

4. 海洋汚染防止

(1) 現状・将来計画

ア．海洋汚染発生状況

運輸省資料（資料４－15「1986～89海洋汚染事故一覧」参照）によれば，86年７月から89年６月にかけて３件の汚染事故が報告されているが，船舶の衝突等による大量油の流出事故等は発生していない。

したがって海洋汚染の可能性については，タンカーの事故よりむしろビルジ，バラスト，タンククリーニング水等の不法排出が考えられる。

また，カラチ港等のオイルターミナルのパイプラインはかなり老朽化しており，十分な汚染防除体制も整備されていないことから，同パイプライン周辺の汚染の可能性も残されている。

イ．関係法令

海洋汚染防止については

・1908年インド港湾法（資料４－16参照）

・1983年汚染防止法（資料４－17参照）

・1983年汚染防止法に関する告示－S．R．O．492(1)/86（資料４－18参照）

があるほか，近く商船法に船舶起因の汚染防止に関する章を設けるべく作業中である。（資料４－19「商船法改正案」参照）

パキスタンはMARPOL73/78条約は批准していないが，パキスタン船籍の船舶は同条約の基準を遵守している。

ウ．組　　織

港湾・海運局が港湾公社，海上安全庁，コーストガードの協力を得て，海洋汚染防止業務を実施している。しかし現実には汚染事故も少なく，監視取締等の汚染防止体制の整備は今後の問題である。

運輸省は関係省庁との調整を任務とする海洋汚染監視センター（MPCC）を設立するとともにコンティンジェンシープランを作成する意向を有しているが，未だ実現していない。本分野においても，近い将来，港湾・海運局と海洋汚染防止をその任務とするＭＳＡとの関係が問題になるものと思われる。

エ．体　　制

監視取締りには関係機関の船艇・航空機等が活用されることとなっているが，現実には殆ど活用されていない。

排出源不明の油については，国家海洋研究所（National Institute of Oceanography）が，分析業務を実施することとなっているが，その能力は十分でない。

また，カラチ港をはじめとする港湾等においてもビルジ，廃棄物等の受入，再処理施設が十分でないといわれている。

(2) 検討事項

パキスタンにおける海洋汚染防止に関し強化すべき事項については，パキスタン港湾・海運局のペーパー（資料4－20「海洋汚染防止及びＳＡＲに関するワーキングペーパー(II)」参照）及びＩＭＯの専門家による報告書（資料4－21「油による海洋汚染に関するコンサルタントの報告書」参照）に記載されているが，次の分野について体制強化を検討していく必要があろう。

ア．不法排出の監視・取締体制

イ．ビルジ，廃棄物等の受入，再処理施設の整備

ウ．関係者に対する汚染防止についての教育

エ．給油，油の荷揚施設の近代化，防除資器材の整備

オ．コンティンジェンシープランの作成

また，カラチ港等に流入する生活汚水の問題については，陸上の汚水処理施設の整備を急ぐとともに，国民の公害に関する意識を改めるべく啓蒙活動を実施する必要がある。

5. 海上防災

(1) 現状・将来計画

ア．事故発生状況

パキスタン沿岸はペルシャ湾からインド，極東への大型タンカーの航路となっているが，現在までのところ大きなタンカー事故はない。

港内においても大事故は発生しておらず，小規模の火災，爆発が臨海部の石油貯蔵施設で発生しているのみである。

イ．関係法令

なし

ウ．組　　織

港内の防災は各港の港湾公社が，港外についてはＭＳＡが責任を有している。

ＭＳＡの所掌事務には海上防災も含まれており，今後，ＭＳＡの強化とともにＭＳＡの果たす役割が大きくなるものと思料されるものの，現在のところＭＳＡは防除資器材を殆ど保有していない。

カラチ港湾公社には消防機関があり，これが現在，防除資機材を有するパキスタン唯一の防災機関といえよう。（カシム港にはまだ整備されていない。）

また，消防機関以外では民間の石油会社が資器材を保有している。（資料4－23「カ

ラチ港ケマリ石油タンク会社及び消防施設の現状」，資料4－23「カラチ危険物貯蔵火災監視制御施設」，資料4－24「カラチ港消防施設一覧」参照）

エ．防災資機材

上記のとおり，資機材の大部分はカラチ港湾公社及び民間会社が保有している。

保有資機材の現状は先の資料に詳しいが十分とは言い難い。

(2) 検討事項

パキスタンが期待している防災に関する開発計画の多くは臨海部の油貯蔵施設関連のものであり，今回の海上安全対策の調査対象ではない旨説明してあるが，今後，同様の問題提起がなされることも予想されるので，調査の対象を明確にしておく必要がある。

海上防災の分野では，次のような事項について検討することになろう。

ア．組織体制を含む防災計画の策定

イ．消防船の整備

ウ．防災資機材の整備

エ．カラチ港荷揚げ用パイプラインの保安対策

オ．臨海部にある貯蔵タンクの安全基準の作成・指導等を行う機関の明確化

なお，本調査団の目的とは多少離れるが，カラチ港では防災の観点から1971年より原油タンク等，危険物貯蔵タンクの設置を禁じている。次回の専門家は，防災の観点からの我が国及び国際的なタンクの設置基準を持参する必要がある。

Ⅶ　所　見

1. パキスタン周辺海域はヨーロッパ，中近東からインド，極東への船舶の航路となっており多数の船舶が航行している。過去，この海域において大型船による重大海難は発生していないが，この種の海難が発生する蓋然性は極めて高い。また，小型漁船の海難実態は殆ど把握されていないが，相当数の海難が発生しているといわれている。

　パキスタンは，かかる状況の下で，ＩＭＯ等を中心とする国際的な場においてＳＡＲ計画のための情報収集国やNAVAREAの調整国になる等，同国周辺海域における海上の安全のために積極的に対応してきている。しかしながら，同国の海上安全体制は充分であるとは言い難い状況にあり，安全体制の確立は刻下の急務となっている。

2. 今回の調査も僅か10日間の調査であったが，Akbar運輸次官補，Khalid国防次官補，Hussain海上安全庁長官等，パキスタン側関係者の積極的な対応から，本件にかけるパキスタンの期待が大きいことを確認することができた。

3. 世界的な海上安全体制の確立を促進していくことは，先進海運国であり，また，海上安全の分野で指導的立場にある我が国に課せられた当然の責務である。

　したがって，パキスタン周辺海域の安全確保を図るための協力は極めて意義深いものであり，我が国としても積極的に対応していく必要がある。

4. 今後の作業としては，パキスタンの要請に応えて，次のような専門家をパキスタンに派遣する必要がある。

航　路　標　識	1名	3ヶ月
捜　索　救　難	1名	1ヶ月
汚染防止・防災	1名	2ヶ月

5. 専門家の派遣時期について，パキスタン側は平成3年度のわが方に対する要請案件を取纏める時期となる平成2年の6月以前の派遣を希望しているが，日本側の準備に要する時間を勘案すれば，平成2年度の早い時期が望ましい。

6. 本件分野は広範にわたること，また，最近の技術進歩の中で整備すべき内容も刻々と変化していることから，最終的には，長期的展望に立った海上安全対策を検討し，パキスタンの海上安全に関するマスタープランを策定する必要がある。

　派遣された専門家は海上安全対策に関する調査を実施するとともに，同対策について指導，助言を行うこととなるが，我が国に対する開発調査協力要請のためのTerms of Reference作成に協力することも重要な任務の一つとなるものと思われる。

資　　料

1－1　A1フォーム

Form A I
(計画番号 99, 100, 101)

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

PROPOSAL

By the Government of PAKISTAN for an expert i.e., Marine Safety, . . . Search & Rescue Coordination and Marine Pollution to the Government of Japan.

Notes:- This form has been devised for the general guidance of the Government agencies concerned (JAPAN) in order to facilitate the supply of relevant information and data necessary to afford an adequate appreciation of the nature of the technical cooperation required. The careful completion of this proposal form will avoid much reference back and lead to speedier action.

1. Background Information This section should show as precisely as possible the general nature of the project for which the expert is required, stating whether it comes within the Government's development programme. It is important to indicate whether the project is a new enterprise or whether it was started previously. In the latter case, any assistance received under other technical cooperation programmes (e.g. under United Nations auspices) should be stated. With regard to industrial enterprises, some impression of the size is important and the output and number of workers to be employed are useful indications. The type of process, make and age of industrial or scientific equipment with which the expert will be concerned should be specified. In the case of academic establishments, it is an advantage to know the number of annual intake of students, their level of attainment, numbers and status of existing staff and details of any research facilities and the level of research being undertaken (copies of brochures, annual reports, financial statements, calendars, syllabus of instruction etc. should be attached where applicable).	Pakistan is morally bound to carry out all the obligations of a maritime nation. Pakistan, therefore, fully participates in the activities arranged by International Maritime Organization and other international bodies. Pakistan has already ratified the Maritime Search & Rescue Convention 1979. The ultimate objective of this Convention is to establish a global plan for maritime search and rescue. Pakistan has accepted the request of IMO to coordinate the collection of SAR information belonging to North Western Arabian Sea. Geographical location of Pakistan places it close to the routes of tankers from Persian Gulf to South Asia, South East Asia and the FAR EAST. In addition, Pakistan is importing large quantities of petroleum products. The facilities for combating oil spillage are almost non-existant, and there is a need to establish a National Contingency Plan to combat such situations. Pakistan would also like to cooperate with other countries for surveillance of marine traffic in response to any major oil spillage in the region. Pakistan is entirely dependent for its trade on sea routes. A large quantity of petroleum products and other hazardous cargo is handled at Pakistani Ports.There are limited facilities for handling normal incidents of fire in the port. The Ports however, lack facilities to handle major fires within the Ports or their adjoining areas.
2. Specification for the post (a) post title (b) duties for which the expert will be responsible. These should preferably be listed and it is important to give as much detail as possible.	Advisors on Marine Safety i. To prepare plan for establishing Search & Rescue Coordination Centre and Sub stations along with full details of facilities and means of communications needed. To recommend supplementation of resources on board vessels to enable them to carry out search and rescue missions in their areas of operations.

	ii. To prepare Contingency Plan to combat large or medium oil spills in Pakistani territorial waters and to recommend facilities needed for monitoring the area and combating the marine pollution incidents. In addition to recommend equipment which can be installed on board existing vessels to assist for monitoring, controlling and combating the incidents of marine pollution. iii. To recommend organization and facilities needed to combat major fire in port or adjoining area and to recommend equipment tobe fitted on existing vessels or Naval acquisition to assist in combating such contingencies.
(c) authority to whom expert will be responsible.	Director General, Ports & Shipping Government of Pakistan
(d) Qualification and experience required and approximate age limits.	Highly qualified and experienced officer familiar with the above requirements. Age - no consideration.
(e) number of personnel required.	T h r e e
3. In the case of continuous projects, give name and particulars of understudy or counterpart who is to work with the expert.	Director of Projects, Ports & Shipping; Government of Pakistan Karachi
4. Terms and conditions of appointment:	
(a) duration	One month
(b) actual place of employment nearest town and post office	Karachi (PAKISTAN)
(c) if living accommodation to be provided, state whether furnished or unfurnished and whether suitable for married man with family (i) daily allowance for food if accommodation only provided. (ii) daily rate for accommodation and food if neither are provided in kind.	Government of Pakistan have not earmarked any funds for this purpose and same are requested under Technical Cooperation.
(d) daily and nightly rates of subsistence payable when away from base on duty.	
(e) are costs of internal travel paid or car provided.	
(f) what leave arrangements are suggested ?	Two weekly holidays i.e. Friday and Saturday

(g) extent to which free hospital and medical treatment is to be provided for the expert and his accompanying dependents, if any.	Not available
(h) shall the expert be exempted from the payment of income tax and chargee of any kind imposed on or in connection with any allowances tobe remitted from overseas ?	
(i) (i) shall the expert be exempted from the payment of customs duties and charges of any kind imposed on or in connection with the importation of equipment, machinery, materials and medical supplies as well as personal and household effects belonging to the expert and his family, including one refrigerator one sewing machine, one radio and other electrical appliances ?	In accordance with the existing agreement between the Government of Pakistan and Government of Japan
(ii) In case a car is not provided to the expert be the host government, shall the expert be exempted from the payment of customs duties and charges of any kind imposed on or in connection with the importation of a car ?	Local Customs
(j) does host government undertake to indemnity expert in respect of damages awarded against him for actions performed in the course of his official duties ?	No
(k) approximate date on which the expert is required to arrive in receiving country	January, 1988
(l) any other information	Nil
5. Previous steps, if any, to fill the post:	Not applicable
6. Correspondence Name, postal and telegraphic address of official to whom correspondence regarding this proposal should be forwarded.	Director of Projects Ministry of Communications (Ports & Shipping Wing) 223-E.I. Lines, Sommerset House, Sommerset Street, Saddar, KARACHI-4.

Signed .....

On behalf of the Government of PAKISTAN

Date: 31/8/1987

AMANULLAH FAZHAN
Director of Projects
Ministry of Communications
(Ports & Shipping Wing)
Karachi.
Tele: 516768

Form A
(計画番号 102)

TECHNICAL COOPERATION BY THE GOVERNMENT OF JAPAN

PROPOSAL

By the Government of PAKISTAN

for an expert, i.e., to advise Government of Pakistan as to what Navigational Aids and how many are required on the Coast of Pakistan which extends for about 450 miles from Gwatar Bay (Long. 61° 37.3" E Lat. 25° 03' 5" N) to Sir Mouth (Long. 68° 02' 58.2" E Lat. 23° 43' 49.01" North)

to the Government of Japan.

Notes:- This form has been devised for the general guidance of the Govt. agencies concerned (JAPAN) in order to facilitate the supply of listed relevant information and data necessary to afford an adequate appreciation of the nature of the technical co-operation required. The careful completion of this proposal form will avoid much reference back and lead to speedier action.

1. Background Information This section should show as precisely as possible the general nature of the project for which the expert is required, stating whether it comes within the Government's development programme. It is important to indicate whether the project is a new enterprise or whether it was started previously. In the latter case, any assistance received under other technical co-operation programmes (e.g. under United Nations auspices) should be stated. With regard to industrial enterprises, some impression of the size is important and the output and number of workers to be employed are useful indications. The type of process, make and age of industrial or scientific equipment with which the expert will be concerned should be specified. In the case of academic establishments, it is an advantage to know the number of annual intake of students, their level of attainment, numbers and status of existing staff and details of any research facilities and the level of research being undertaken (copies of brochures, annual reports, financial statements, calendars, syllabus of instruction etc. should be attached where applicable).	Until 1969 Coasts of West Pakistan had only two Light Houses; one at Manora (Karachi Harbour) and the other at Cape Monze (approaches to Karachi) In 1969 four small range Light Houses were installed, one each at Jiwani, Gwadar, Pasni & Ormara. In 1982, the Light House from Pasni was shifted to Astola Island. One Light House at Khuddi Creek (Port Qasim approaches) was installed in 1974. The range of Light House at Makran Coast is being increased to 19-25 miles (work under way) through their conversion into Solar Power/bigger Lights. In between these Light Houses more Light Houses are necessary, also new Light Houses are necessary on the Sind Coast (South of Karachi) so as to provide an unbroken Chain of Light Houses on the Coast of Pakistan for coastal Navigation. Pakistan also needs Decca Navigation Chain to be installed, Covering the entire length of her Coasts. Pakistan is the only country in the region which is void of this Navigational Aid facility. A Chain of Direction finder Stations and Raymark is also necessary on the Coasts of Pakistan so as to bring it upto date as far as Navigational Aid facilities are concerned.

	Services of an expert are most welcome, who can survey and make out report as to what Navigational Aids, how many and where are necessary for the Coasts of Pakistan and who can also suggest improvements in the existing ones.
2. Specification for the post* (a) Post title (b) duties for which the expert will be responsible. These should preferably be listed, and it is important to give as much detail as possible. (c) authority to whom expert will be responsible.	2 (a) Advisor on Navigational Aids. (b) (i) To Survey the entire Pakistan Coast for installation of Nav. Aid. (ii) Advise the total number of Light Houses to be installed for safe Navigation. (iii) Advise any modification/ alteration to the existing Light Houses. (iv) Advise on the provision of Decca Navigational Chain Raymark Stations on the Pakistan Coast. (c) Superintendent of Light Houses.

It is essential that full particulars should be given. If the space provided is inadequate, they should be given on a separte sheet.

2. Specification for the post (*Cont'd.*) (*d*) Qualification and experience required and approximate age limits.	Highly experienced officer
(*e*) number of personnel required.	One
3. In the case of continuous projects, give name and particulars of understudy or counterpart who is to work with the expert.	Superientendent of Light Houses Karachi.
4. Terms and conditions of appointment: (*a*) duration	One Month
(*b*) actual place of employment, nearest town and post office	Karachi
(*c*) if living accommodation to be provided, state whether furnished or unfornished, and whether suitable for married man with family	Goverment of Pakistan have not ear marked any fund for thes purpose and it should be included under Technical assistance.
(i) daily allowance for food if accommodation only provided	
(ii) daily rate for accommodation and food if neither are provided in kind	
(*d*) daily and nightly rates of subsistence payable when away from base on duty	
(*e*) are costs of internal travel paid or car provided?	
(*f*) what leave arrangements are suggested?	
(*g*) extent to which free hospital and medical treatment is to be provided for the expert and his accompanying dependents, if any	
(*h*) shall the expert be exempted from the payment of income tax and charges of any kind imposed on or in connection with any allowances to be remitted from overseas?	As per existing arrangement between Government of Pakistan and Japan
(*i*) (i) shall the expert be exempted from the payment of customs duties and charges of any kind imposed on or in connection with the importation of equipment, machinery, materials and medical supplies as well as personal and household effects belonging to the expert and his family, including one refrigerator, one sewing machine, one radio and other electrical appliances?	- do -
(ii) In case a car is not provided to the expert by the host government, shall the expert be exempted from the payment of customes duties and charges of any kind imposed on or in connection with the importation of a car?	- do -

4. Terms and conditions of appointment (*Cont'd.*)	
(*j*) does host government undertake to indemnify expert intespect of damages awarded against him for actions performed in the course of his official duties?	No
(*k*) approximate date on which the expert is required to arrive in receiving country	January 1988
(*l*) any other information	--
5. Previous steps, if any, to fill the post: If any previous attempt has been made to fill the post from any external source (UN Specialised Agency or other) please indicate:	
(*a*) to whom proposal was addressed, with date	MA
(*b*) result or present stage of negotiations	
(*c*) are other experts working in this area in associated projects or have there been experts working in this field previously? If so, are any reports by these experts available?	
6. Correspondence: Name, postal and telegraphic address of official to whom correspondence regarding this proposal should be forwarded	Capt. Abdul Jabbar Randev Superintendent of Lighthouses, 70/4 Timber Hard N.M. Reclamation Kemari, Karachi "Principoff" Karachi.

Signed .....

Date: 31.8.1987 on behalf of the Government of PAKISTAN.

２－１　訪問先及び関係者リスト

１２月１７日（イスラマバード）

「ＪＩＣＡ事務所」

氏名	職名	所属
谷川　和男	所長	ＪＩＣＡパキスタン事務所
西川　昭司	所員	（調査団と２０日まで同行）
戸川　正人	所員	

「経済省」

氏名	職名	所属
Akhtar Iqbal	Deputy Secretary	Ministry of Finance & Economic Affairs

「国防省」

氏名	職名	所属
S.H. Khalid (Rear Admiral)	Additional Secretary	Maritime Affairs Wing Ministry of Defence Pakistan Secretariat No.II Rawalpindi
M. Tariq Janjua	Joint Secretary	- do -
M. Azhar	Section Officer	- do -

「運輸省」

氏名	職名	所属
MALIK M Zahoor Anwar	Joint Secretary (Planning)	Ministry of Communications
Ifiikhar Ahamad	Section Officer (Ports & Shipping)	- do -

「日本大使館」

氏名	職名	所属
角田　豊	一等書記官	在パキスタン日本国大使館

１２月１８日（カラチ）

「日本総領事館」

氏名	職名	所属
新名　清志	副領事	日本国カラチ総領事館

１２月１９日

「海運局」（全体会議）

氏名	職名	所属
Sajjad Akbar (Rear Admiral)	Additional Secretary & Director General	Ports & Shipping Wing Ministry of Communications
Ifran UL-Haq (Captain)	Director of Projects	- do -
M.S.Baloch (Captain)	Director of Shipping	- do -
A. Grbban Raudeu (Captain)	P.O.M.M.D Light Houses	Mercantile Marine Department Light Houses & Light Ships Department
I.M. Rhnn Samualami (Captain)	CNS	Ports & Shipping Wing Ministory of Communications
Tasxiee M Vilph Khan Ruf Cale	OPS MCN PSO	- do -
M.F.Pasha	Deputy Hydrographer	Hydrographic Department Pakistan Navy
Azhar Hussan (Captain)		C.S.O. to Comcos Pakistan Navy
Akarim Bondrey (Captain)	Dept. Conservator	Karachi Port Trust
S.R.H. Rizvi (Captain)	Chief Mech. & Elect. Engineer	- do -
Qurban Hussan	Engineer & Ship Surveyor	Light House & Light Ship Department Ports & Shipping Wing Ministry of Communications
Ayub Khan LT	Deputy Director	Maritime Security Agency
S.T.N. Ghnai	Chief Hydrographer	Port Qasim Authority
Riaz Ahnal (Captain)	Director of ports	Ports & Shipping Wing Ministry of Communications
Nizamuddin	Section Officer (P-III)	- do -

１２月１９日

「個別会議」（捜索救助、海上防災、海洋汚染）

氏名	職名	所属
Azhar Hussan (Captain)		Pakistan Navy
Siraj Ahmed	Port Fire Officer	Port Fire Office Karachi Port Trust
Riaz Ah ad (Captain)	Director Ports & Admire	Ports & Shipping Wing Ministry of Communications
I.H.Khan Samadani (Captain)	Chief Nautical Surveyor	- do -
S.R.H. Rizvi Pncrrdi (Captain)	Chief Mech. & Elect. Engineer	Karach Port Trust
S.T.N. Ghani	Chief Hydrographer	Port Qasim Authority
M. Rapi Calcat	IM.	P.S.O.
Nizamuddin	Section Officer (P-III)	Ports & Shipping Wing Ministry of Communications
Hassan Khurshid (Captain)	Deputy Harbor Master	Karachi Port Trust

「個別会議」（航路標識）

氏名	職名	所属
N.A.Shami (Captain)	Harbor Master	Port Qasim Authority
Hassan Khurshid (Captain)	Deputy Harbor Master	Karachi Port Trust
M.F. Pashg Lt.Calrpn	Deputy Hydrographer	Hydrographic Department Naval Head Quotar Karachi
Lapr Mansoor	Deputy Dock Master	Karachi Port Trust
Irfan UL Haq Dar (Captain)	Director Projects	Ports & Shipping Wing Ministry of Communications
A. Jabbar Randev (Captain)	P.O.M.M.D	Mercantile Marine Department Light Houses & Light Ships Department Ministry of Communications
Qurban Flussain	Engineer & Ship Surveyor	Light Houses & Light Ships Department Ministry of Communications

１２月２０日
「海上安全庁」

氏名	職名	所属
S.R. Hussain (Commodore)	Director General	Maritime Security Agency

１２月２１日
「個別会議」（捜索救助、海上防災、海洋汚染）

氏名	職名	所属
Riaz Ahmad (Captain)	Director Port & Administrate	Ports & Shipping Wing
Nizamuddin	Section Officer (P-III)	- do -
I.M.Ichrn Samdani (Captain)	Chief Nautical Surveyor	- do -

「沿岸警備隊」

氏名	職名	所属
Javed Akhtav	Deputy Director General	Pakistan Coast Guards
Higat Ali	- do -	- do -

「最終会議」

氏名	職名	所属
M.F.Pasha Lt.Colr	Deputy Hydrographer	Hydrographic Department Naval Head Quotar Karachi
N.A.Shamsi (Captain)	Harbor Master	Port Qasim Authority
Riaz P (Captain)	Director Ports & Admin	Ports & Shipping Wing
I.M.Khan Samadani (Captain)	Chief Nautical Surveyor	- do -
A. Jabbar Randsv (Captain)	Principal Officer Mercantile Marine Department and suprd of Light House	- do -
M.S. Baloch (Captain)	Director of Shipping	- do -
I.H.Dar (Captain)	Director of Projects	- do -
Sajjad Akbar (Rear Admiral)	Additional Secretary & Director General	- do -
Nizamn	Section Officer (P-III)	- do -
Qurban Hussain	Surveyor Light House	- do -

3－1　保有船舶リスト

FLEET COMPOSITION　　(AS ON DECEMBER,1988)

S/NO	VESSELS	BUILT	GRT	DWT	SPEED	OFF	CREW	TOTAL
1.	SHAMS	1960	8,029	5,772	13.0	24	42	66
2.	KAPTAI	1967	10,216	10,330	13.0	20	31	51
3.	OHRMAZD	1968	11.046	13,277	13.0	22	38	60
4.	SUNDERBANS	1968	8,917	13,069	13.0	20	32	52
5.	TARBELA	1968	9,739	13,330	13.0	20	32	52
6.	SHALAMAR	1970	8,942	13,391	12.5	19	30	49
7.	OCEAN ENVOY	1972	9,126	15,215	10.2	18	32	50
8.	HINGLAJ	1972	10,684	15,928	13.0	18	28	46
9.	HUNZA	1972	10,684	15,928	13.0	18	28	46
10.	LALAZAR	1974	9,026	13,539	13.0	20	31	51
11.	*MAKRAN	1979	16,241	23,490	14.5	15	19	34
12.	*SARGODA	1980	12,438	18,242	15.0	16	22	38
13.	*MALAKAND	1980	12,479	18,224	15.0	15	22	37
14.	*MULTAN	1980	12,437	18,257	15.0	15	21	36
15.	*HYDERABAD	1980	12,479	18,257	15.0	16	21	37
16.	*CHITRAL	1980	12,479	18,144	14.5	16	22	38
17.	*BOLAN	1980	12,479	18,153	14.5	17	21	38
18.	*AYUBIA	1981	11,941	18,050	14.0	14	22	36
19.	*KAGAN	1981	11.941	18,050	14.0	16	22	38
20.	*KHAIRPUR	1981	12,010	16,430	14.0	16	22	38
21.	*MUREE	1981	11,941	18,050	14.0	15	22	37
22.	*SIBI	1981	12,010	16,436	14.0	16	22	38
23.	*ISLAMABAD	1983	12,519	18,240	15.0	17	22	38
	TOTAL (P.N.S.C)		2,60,703	3,67,802		404	604	1008
24.	SAFINA-E-ABID	1950	5,578	5,324	13.5	30	89	119
25.	SAFINA-E-REHMAT	1958	8,595	12,511	12.0	16	30	46
26.	SAFINA-E-NAJAM	1960	7,083	11,381	13.5	12	18	30
27.	SAFINA-E-ARAB	1961	8,477	6,967	15.0	29	90	119
28.	SAFINA-E-HAIDER	1963	8,919	12,838	14.0	17	31	48
	TOTAL (PISSC)		38,652	49,021		104	258	362
29.	M.T.JOHAR	1975	49,635	89,937	16.5	18	18	36
	GRAND TOTAL		3,48,990	50,6,760		526	880	1406

PASSENGER SHIPS CAPACITIES IN PILGRIM SEASON

NAME OF VESSELS	1st.CALSS	ECONOMY	DECK	TOTAL	CREW
1.SAFINA-E-ARAB	26	100	1248	1374	163
2.M.V.SHAMS	40	60	1106	1206	167
3.SAFINA-E-ABID	14	30	1083	1127	133

3－2 漁船統計

3. Gross Tonnage of Merchant Ships as at 30th March,1989. 344,556 tonnes.

P.N.S.C. Fleet:	23 ships.	258,750 Gross Tonnage.
Pan-Islamic Fleet:	5 ships.	36,171 Gross Tonnage.
Tanker Fleet:	1 ship.	49,635 Gross Tonnage.
Total Ships:	29 ships.	344,556 Gross Tonnage.

Total DWT available: 515,319 tonnes including tanker of 89,941 tonnes.
(Range of DWT from 23,490 to 5,324 tonnes of cargo ships.)
(Range of GT from 16,241 to 5,578 tonnes of cargo ships excluding Tanker of 49,635 GT.)

(Speed Range from 16.5 to 10.2 Kts.)
(Built from 1983 to 1951.)

Pilgrim lifting capacity	(3 ships.)	3,707 persons.
Crew " " "		463 "
Total:		4,170 persons.

8. Pakistan's Fishing Fleet Strength:

	Nos.	GRT.
Fishing vessels of 24 m in length and over.	18	3,268
Fishing vessels of 100 GRT and over. (Range from 104.36 to 345.93 GRT.)	10	2,566
Fishing vessels of less than 24 m in length.	10,296	164,422
Total:	10,324	170,256

9. Pakistan's Skilled Manpower Strength in the Merchant Marine Profession affected by the instruments adopted by I.M.O.

Registered Seamen (Deck,Engine,Catering): 12,127 nos.

Registered Officers:
(Masters,Deck Officers,Marine Engineer Officers and Radio Officers.) : 7,006 nos.

Cargo handled annually : 21 million tonnes.
Passengers handled annually (including Pilgrims) : 34,000 nos.

(Cont'd on Page no: 12.)

3－3　カラチ港パンフレット

KARACHI PORT TRUST

Administration Report and Accounts for the year 1986-87

KARACHI PORT TRUST

Administration Report and Accounts for the year 1986-87

Compiled by: **Mr. A. Malik Siddiqui**
Secretary K.P.T.

Edited by: **Mr. Kafil Ahmed Khan**
PRO K.P.T.

Published by: **Mr. Abdul Wahid**
Manager Stores K.P.T.

INDEX

KARACHI PORT TRUST ADMINISTRATION REPORT FOR THE YEAR 1986-87

PART - I

PART - II

ACCOUNTS

INTRODUCTION

The Karachi Port Trust is an autonomous body created under the Karachi Port Trust Act 1886. The Management of the affairs of the Port and the responsibility of carrying out the provisions of the Act, are vested in a Board of Trustees. The Board being a corporate body, has a perpetual succession and a common seal. The Board consists of the Chairman and ten Trustees partly appointed by the Government and partly elected by the Karachi Metropolitan Corporation and various Trade Associations. The Government appoints the Chairman as the Chief Executive and he is solely responsible for all Administrative matters. The Trustees of the Board hold office for a period of two years. The Board is competent to construct and carry out works, lease, sell or transfer any movable and immovable property which may have been vested in or acquired by it and enter into and perform contracts, subject to certain restrictions in the form of sanction from the Government.

The Trust's revenue is derived from (1) Charges levied for the use of Harbour, Wharves, Works, Appliances, etc. (2) Services rendered to vessels and goods and (3) rent for Lands, plots, buildings etc. The Board is empowered to raise money in the open market or otherwise for carrying out large capital works or for purchase of Port Appliances. Twice every year the accounts of receipts and expenditure of the Board are laid before the Government and audited by the Auditors appointed by the Government.

HARBOUR PROTECTION :

To protect the Harbour against the monsoons, storms and the siltation of sea-bed resulting from tidal action and littoral drifts which reduces the available depth of Water in the Entrance Channel, the Manora Breakwater Wall was constructed in 1873. The Breakwater wall is 472.44 meters (1550 ft). in length and 7.31 meters (24 ft.) in width. The entrance channel is further protected on its eastern flank by the Keamari Groyne which is 1½ miles in length. It was constructed in 1865 and prevents siltation due to tidal action and littoral drifts from the East side of the Harbour.

The Manora Breakwater has been rehabilitated during 1967-68 at a cost of Rs. 50 Lakhs. This has been achieved by strengthening the Breakwater by an armouring of Cement concrete blocks weighing 1 ton, 11 tons and 28 tons, placed in a Pell-Mell manner.

1

HISTORICAL BACKGROUND :

While the early history of Karachi Port is shrouded in the mist of oblivion it is evident that Karachi, due to its geographical and strategic position, has been considered as a safe harbour since time immemorial. Historians have tried to identify Karachi with Koraikal of 326 B.C., where Alexander's fleet first anchored in the Indian Ocean. It is also not beyond historical evidence that the first Muslim conqueror of India, Muhammad Bin Qasim, landed at Daibul of the past in vicinity of Karachi in 711 A.D.

The first mention of Karachi as a port is found in an Arabic treatise "Muhit", on navigation relating to the West Coast of India and the Persian Gulf. Written in 1558, this treatise warns the sailors of whirlpools in the Gulf of Jaked and advises them to seek safety in Karachi Harbour if ever they found themselves drifting dangerously.

The port of Karachi, has, therefore, a magnificient historical background, especially, in the context of the seafaring of Muslims as the first Muslim conqueror of Indo-Pakistan sub-continent landed here. It is also significant that Karachi is the birth place of the founder of Pakistan, Quaid-e-Azam Muhammad Ali Jinnah and the first Capital of Pakistan. It is now the largest city of Pakistan.

By 1859, Karachi was an established city with a population of about 14,000 carrying out a prosperous trade through the port exceeding Rupees 2 Millions a year in over-seas Markets. However, the making of the existing Port started taking shape by 1854, when the projects of dredging the main Navigable Channel and the construction of a mole or causeway joining the main Harbour Area with the rest of the city, were undertaken. About 5 years later, construction of Manora Breakwater, Keamari Groyne, the Napier Mole Bridge, Native Jetty and the Chinna Creek stoppage, were started which carried out the existing shape of the port in its initial stage.

The construction of the Wharves started from 1882 and by 1914 the East Wharves of the port and the Napier Mole Boat Wharf had been completed. After 1914, during the periods between 1927 and 1944, the West Wharves of the port, the Lighterage Berths and the Ship-Repairing Berths were constructed. Most of these facilities were obsolete by the time Pakistan came into existance in 1947. Since then, the port Administration embarked on extensive development of the port on modern lines, details of which will be found on the following pages.

ORGANISATION:

The Administration of the port is under the direct control of the Chairman, who is assisted by General Managers and Principal Heads of departments, as shown in the Organisation Chart. The Chairman also has a Secretariat in the charge of the Secretary.

GENERAL:

The Port of Karachi is one of the two ports serving the entire country which has an area of 310,236 square miles. It is the Chief Port of Pakistan and besides being a Port of Call for both Ocean-going and Coastal Vessels, it is also the Home Port of the bulk of Pakistan's Merchant Fleet and the Pakistan Navy.

The Port of Karachi is situated on longitude 66° - 58' - 38" East and latitude 24°- 48' North. The maximum shade temperature of 38.2°C was observed on 23rd April, 1987 and the minimum shade temperature of 8.9°C was recorded on 13th December, 1986. Maximum humidity of 96% was recorded on 10th July, 1986 and minimum humidity of 23% was recorded on 15th December,1986. There was 106.5 m.m. rainfall from 1st July,1986 to 30th June, 1987. The highest high tide 10.8 feet above the Karachi Harbour Works Datum was recorded on 8th June, 1987 and the lowest low tide of minus 1.4 feet below the Karachi Harbour Works Datum was recorded on 4th December, 1986.

The total area of Karachi Harbour available within contour 6.10 meters upto 30th June, 1987 was 311.61 Hectares as compared to 311.46 of the last year.

The available anchorage area in the Harbour is as under :-

Available	6.10 meters contour (311.61 Hect)
Available	8.23 meters contour (211.59 Hect) excluding Entrance Channel.
Available	8.53 meters contour (308.52 Hect) including Entrance Channel.
Available	8.84 meters contour (288.44 Hect) including Entrance Channel.
Available	9.14 meters contour (273.20 Hect) including Entrance Channel.

This report is divided into two parts. Part I is a Narrative Report dealing with various aspects of Port working such as General Administration, Port Equipment and facilities like Traffic, Engineering works, Financial Results, Port Development, Welfare, Medical and Health and publicity etc. Part II contains Accounts covering the Capital and Revenue Accounts, Balance Sheet subject to the Auditor's Certificate.

The report also contains concise details of the essential data in respect of various aspects of Port working and provides ample information to those interested in the affairs of the Karachi Port Trust.

RE-ORGANISATION SCHEME

The Management Consultants M/s Maclintock Mann and Whinney Murray, London, in association with M/s. Rahim Jan & Company, Karachi, were entrusted with the assignment for introduction of Management Accounting System in the Karachi Port Trust. This was divided into two stages:-

a) Design Phase.
b) Implementation Phase.

The Design Phase was completed and a number of Reports submitted by the Management Consultants which were accepted in principle by the Board. Work on Implementation Phase was started on the 1st August, 1973.

While the Management Consultants were working on the above, their terms were extended to provide for submission of a Report on re-structuring of the Management Organization of the Karachi Port Trust. They have prepared and submitted Organization Study Report and re-organized Divisional structure. The Re-Organization Scheme of Karachi Port Trust has been approved by Government and it has come into force with effect from the 11th February, 1977, when the Government appointed General Manager, Finance. The remaining three General Managers were also appointed with effect from 14th May, 1977, while General Manager Administration joined on 16th April, 1979.

KARACHI PORT TRUST

(SECRETARIAT)

Members of the Board of Trustees for the period from July, 1986 to June, 1987.

CHAIRMAN :
Mr. Aftab Alam,
M.Sc. Engg. (Iowa), D.I.C. (London)
B.Sc. Engg. (Pb), H.S.C.(Cantab),
F.A.S.C.E., M.P.I.A.N.C.,
F. Inst. T.

VICE-CHAIRMAN:
Mr. Khalil Masood,

ELECTED TRUSTEES :

1. Mr. S. M. Muneer	Elected by the Chamber of Commerce and Industry, Karachi.
2. Capt.S.I.H. Naqvi	Elected by the Pakistan Ship Owners' Association.
3. Dr. M. S. Habib	Elected by the Karachi Overseas Investors, Chamber of Commerce & Industry.
4. Mr. Mustafa Khan	Elected by the Karachi Metropolitan Corp. Karachi.
5. Haji Oomer Dada	Elected by the Karachi Cotton Association Ltd., Karachi.

6

APPOINTED TRUSTEES :

6. Rear Admiral M. S. Choudhry, S.Bt., (upto January, 1987).	Representing Ministry of Defence.
Rear Admiral S. IqtidarHussain, S.Bt. (from February, 1987).	-do-
7. Mr. Zafarullah Qureshi	Railway Representative.
8. Mr. Nur Ahmad Shah, (upto February, 1987)	Food Ministry Representative.
Mr. Mohammad Anwar Malik, (from March, 1987)	-do-
9. Mr. Khalil Masood	CBR Representative.
10. Mr. M.A. H. Azmi	Labour Representative.

7

MANAGING EXECUTIVE

Mr. Aftab Alam	Chairman and Chief Executive

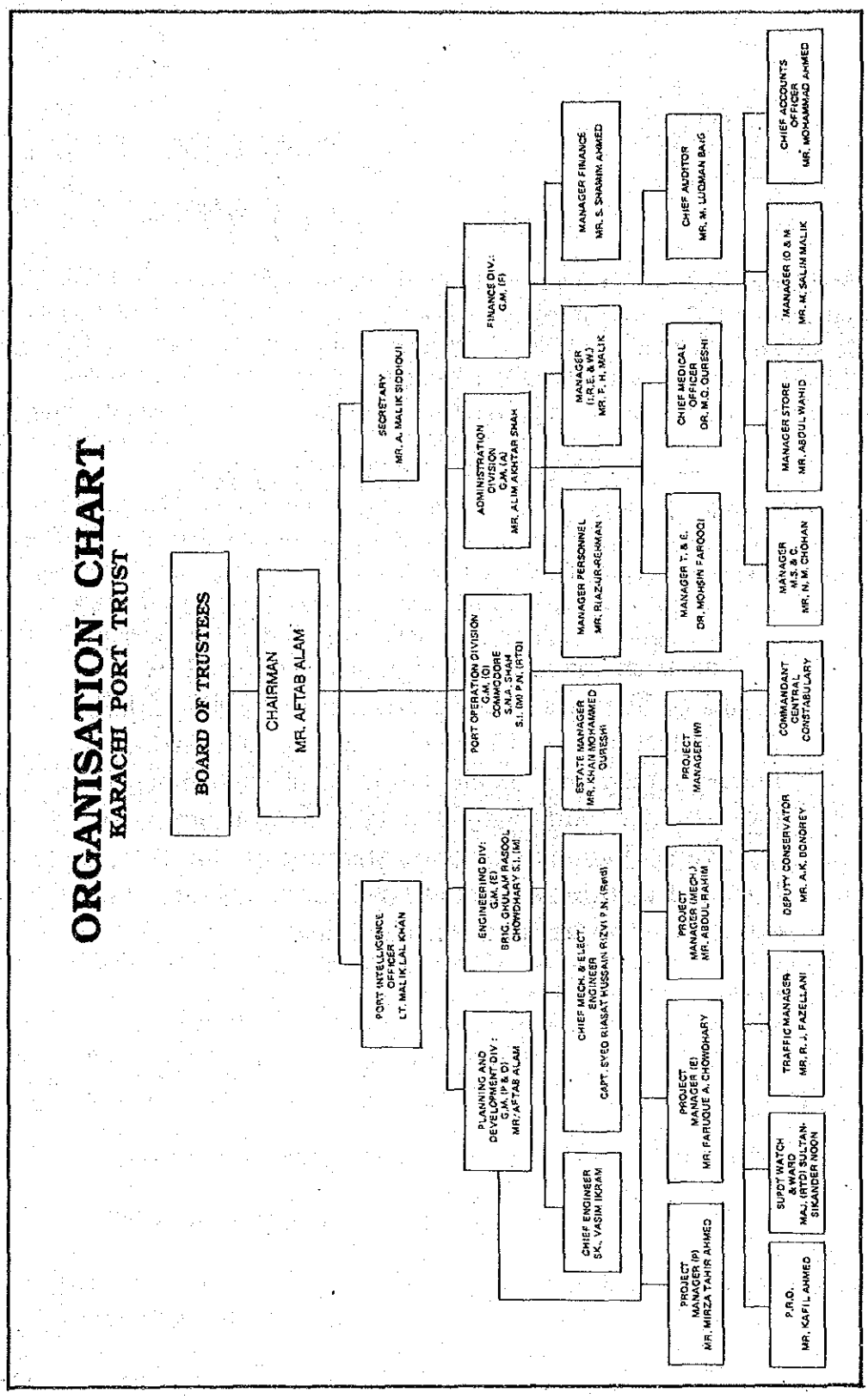
GENERAL MANAGERS :

Mr. Aftab Alam	General Manager (Planning & Development).
Mr. Q. H. Siddiqui	General Manager (Finance).
Mr. Alim Akhtar Shah	General Manager (Administration).
Brig. Ghulam Rasool Choudhry	General Manager (Engineering).
Commodore (Retd) S.N.A. Shah (from 4.10.1986)	General Manager (Operations).

8

PRINCIPAL HEADS OF DEPARTMENTS.

Mr Sheikh Vasim Ikram, B.E. (Civil), A.M.I.E. (Pak)	Chief Engineer.
Dr. M.Q. Qureshi, M.B.B.S., M.R.C.P., L.A.H. (Dublin) D.C.H. (London)	Chief Medical Officer.
Mr. Mohammad Ahmed B.,Com., LL.B., A.C.A.	Chief Accounts Officer.
Mr. Niaz Mohammad Chohan, M.A.	Manager (Management Systems and Computerization).
Mr.Shamim Ahmed, M.B.A., A.C.M.A.	Manager Finance.
Capt. A. K. Bondrey.	Deputy Conservator.
Mr.R.J.Fazellani.	Traffic Manager.
Mr.Mirza Luqman Baig.	Chief Auditor.
Mr.S.Riasat Hussain Rizvi.	Chief Mech.& Elect. Engineer.
Mr.Khan Mohammad Qureshi.	Estate Manager.
Mr.M.Salim Malik.	Manager(Organisation &Method).
Dr.Mohsin Farooqui, Ph.D.	Manager(Training & Education).
Mr.Abdul Wahid.	Manager Stores
Mr. Fida Hussain Malik	Manager (Industrial Relations, Establishment & Welfare).
Major (Retd.) Sultan Sikandar Noon.	Superintendent Watch & Ward.
Mr. A. Malik Siddiqui, M.A. LL. B.	Secretary.
Lt. Col. (Retd) Riazur Rehman (from 30.10.1986)	Manager Personnel.
Lt. (SD) (C) Malik Lal Khan	Port Intelligence Officer.


ORGANISATION CHART
KARACHI PORT TRUST
BOARD OF TRUSTEES
CHAIRMAN
MR. AFTAB ALAM
SECRETARY
MR. A. MALIK SIDDIQUI
PORT INTELLIGENCE OFFICER
LT. MALIK LAL KHAN
PLANNING AND DEVELOPMENT DIV : G.M. (M & D) MR. AFTAB ALAM
ENGINEERING DIV: G.M. (E) BRIG. GHULAM RASOOL CHOWDHARY S.I. (M)
PORT OPERATION DIVISION G.M. (O) COMMODORE S.N.A. SHAH S.I. (M) P.N. (RTD)
ADMINISTRATION DIVISION G.M. (A) MR. ALIM AKHTAR SHAH
FINANCE DIV.: G.M. (F)
MANAGER FINANCE MR. S. SHABBIR AHMED
CHIEF ACCOUNTS OFFICER MR. MOHAMMAD AHMED
CHIEF AUDITOR MR. M. LUQMAN BAIG
MANAGER I.O. & M. MR. M. SALIM MALIK
MANAGER STORE MR. ABDUL WAHID
MANAGER M.S. & C. MR. N. M. CHOHAN
CHIEF MEDICAL OFFICER DR. M.Q. QURESHI
MANAGER (I.R.E. & W.) MR. P. H. MALIK
MANAGER PERSONNEL MR. RIAZ-UR-REHMAN
MANAGER T. & E. DR. MOHSIN FAROOQI
ESTATE MANAGER MR. KHAN MOHAMMED QURESHI
CHIEF MECH. & ELECT. ENGINEER CAPT. SYED RIASAT HUSSAIN RIZVI P.N. (Retd)
PROJECT MANAGER (IW)
COMMANDANT CENTRAL CONSTABULARY
DEPUTY CONSERVATOR MR. A.K. DONDREY
PROJECT MANAGER (MECH.) MR. ABDUL RAHIM
TRAFFIC MANAGER MR. R. J. FAZELLANI
PROJECT MANAGER (E) MR. FARUQUE A. CHOWDHARY
SUPDT WATCH & WARD MAJ. (RTD) SULTAN-SIKANDER NOON
CHIEF ENGINEER SK. VASIM IKRAM
PROJECT MANAGER (P) MR. MIRZA TAHIR AHMED
P.R.O. MR. KAFIL AHMED

10

APPRECIATION

The keen interest and vigilance exercised by the Board of Trustees under guidance of the Chairman, and earnest efforts of the Officers, Staff and Workers in the employment of the Trust, again contributed to the efficient working of the Port, establishment of new cargo handling records, stability of the Trust's financial position and continued modernisation and economic development of its facilities.

11

TRAFFIC REVIEW

PORT OPERATIONS :

General Manager (Operations) is the Executive Head of the Operations Division, who is responsible directly to the Chairman. This Division has three large departments viz. Port, Traffic and Watch and Ward and three small deptts., viz. Public Relations, Central Pass Issuing and Telephone as detailed below. The General Manager (O) is responsible for efficient functioning of the above Departments.

The Port and Traffic Departments under their respective heads of department work in close collaboration with each other for quick movement of vessels and prompt handling of cargo at the port. The over all efficiency of the port depends on the good team work, co-operation, co-ordination, planning and mutual understanding of the two principal departments of the operation division.

a) Port Department.

This department is controlled by the Deputy Conservator, who is assisted by the Harbour Master and Dock Master. This department has 50 Officers and 1179 personnel. It is responsible for pilotage service, maintenance of buoys, Manora Light House and berthing and unberthing of ships. There is close liaison between the Traffic and the Port Departments to ensure that the ships get suitable berths where handling facilities exist for the type of cargo carried on board the ships. A daily berthing meeting is conducted by the Dy. Conservator in the Head Office which is attended by the representative from the Traffic Department, the ship agents and the other concerned agencies operating at the port to decide upon berthing plan for next 24 hours. Port Department accounts for about 23 percent of the revenue of K.P.T.

The Port Department is also responsible for the following functions:-

1) All matters pertaining to arrival/departure of vessels;

2) Drawing a daily berthing and sailing programme in collaboration with the Traffic Department;

3) Pilotage of vessels;

4) Recovery of port dues in respect of the movement of vessels;

5) Operation and Maintenance of crafts and navigation marks;

6) Safe Navigation in Channel, prevention of harbour pollution and maintaining a watch over the harbour and outer anchorage;

7) Communication with vessels.etc.

b) TRAFFIC DEPARTMENT :

Traffic Department is controlled by the Traffic Manager who is assisted by Two Dy., Traffic Managers. Traffic Department consists of 33 officers and 3316 personnel of various other categories. The main function of this department is to ensure smooth ship operation, brisk cargo handling, markwise storage of cargo and prompt clearance of Import and shipment of export cargo from the port. The Traffic Department contributes 65% revenue towards the total port's income.

The Traffic Department is mainly responsible for the following functions :-

1) Berthing of Vessels in collaboration with Dy. Conservator.

2) Smooth operation of ships alongside, and in abreast position in the port.

3) Prompt handling and mark-wise storage of cargo passing through the port in the most economical and efficient manner.

4) Operation of berths, sheds, storage areas and cargo handling equipment.

5) Safe custody and prompt delivery of goods to the rightful consignees.

6) Maintenance of cargo handling statistics at the Port.

7) Planning and improvement of cargo handling and ship operations in the port in order to provide efficient, quick and economical service to the users.

c) WATCH & WARD DEPARTMENT :

This deptt., is headed by a Superintendent Watch & Ward, has a strength of 4 Officers and 1167 personnel. This department is responsible for providing security on the exit and entry points of the port as well as cargo lying on plinths and in sheds. It also provides security personnel for KPT Buildings and vital installations outside the Port Area.

d) PUBLIC RELATIONS DEPARTMENT :

This department is headed by a full-fledged Public Relations Officer. It has strength of 25 persons whose assignments include control of KPT's promotional and operational advertisements, monitoring of news pertaining to KPT in press and necessary inputs to provide material for it, publication of KPT diaries/calenders and the regular fortnightly in-house K.P.T. News Bulletins.

e) CENTRAL PASS ISSUING OFFICE :

It is headed by a Pass Issuing Officer. It has 50 personnel mostly drawn from Traffic Department. This deptt., is responsible for issuance of entry passes to all port users in accordance with rules promulgated by Government. It contributes approximately Rs. 60 lacs towards KPT income and the same is spent almost entirely on maintenance of this organization and the allied facilities.

f) TELEPHONE DEPARTMENT :

It is a small department looked after by a Telephone Supervisor under whom the Telephone Operators of K.P.T. Head Office Telephone Exchange work. This department looks after the Head Office telephones and bills thereof. It generally maintains liaison with T&T Department for all telephones of K.P.T. duly sanctioned by the KPT Board.

g) CARGO HANDLING STATISTICS DURING THE LAST FIVE YEARS :

IMPORTS/EXPORTS

COMMODITY	1982-83	1983-84	1984-85	1985-86	1986-87
TOTAL IMPORTS & EXPORTS	14,788,594	14,757,795	14,897,602	15,819709	16,305,627
Total Dry General Cargo	4,015,798	4,171,209	3,904,978	5,001,197	4,832,334
Total Dry Bulk Cargo	2,694,959	2,521,079	2,768,818	2,529,729	2,990,316
Total Liquid Bulk cargo	8,077,837	8,065,507	8,223,806	8,288,783	8,482,977
TOTAL IMPORTS:	11,708,540	12,412,286	12,400,962	12,510,591	13,180,357
Dry General Cargo	2,718,526	3,045,562	2,754,727	3,218,216	2,847,875
Dry Bulk Cargo	2,073,959	1,966,834	2,386,181	1,997,694	2,533,339
Liquid Bulk Cargo	6,916,055	7,399,890	7,260,054	7,294,681	7,799,143
TOTAL EXPORTS:	3,080,054	2,345,509	2,496,640	3,309,118	3,125,270
Dry General Cargo	1,297,272	1,125,647	1,150,251	1,782,981	1,984,459
Dry Bulk Cargo	621,000	554,245	382,637	532,035	456,977
Liquid Bulk Cargo	1,161,782	665,617	963,752	994,102	683,834

14

IMPORTS

COMMODITY	1982-83	1983-84	1984-85	1985-86	1986-87
DRY IMPORTS:					
Bulk Cargo :					
Cement	646,941	871,261	721,932	217,173	18,311
Fertilizer	808,809	490,704	569,287	455,619	1,024,395
Rock Phosphate	196,252	283,033	276,351	224,670	237,544
Iron Scrap	114,819	114,673	143,439	171,819	390,227
Sugar	6,606	5,569	20,946	268,326	771,115
Sulphur	N.A.	N.A.	N.A.	N.A.	37,828
Wheat (Domestic)	212,780	321,836	818,611	729,968	-
Wheat (Afghan Refugees)	N.A.	N.A.	N.A.	363,764	53,919
GENERAL CARGO					

COMMODITY	1982-83	1983-84	1984-85	1985-86	1986-87
Bamboos	7,474	3,059	4,589	6,857	2,094
Dyes & Chemicals	114,291	104,348	93,043	138,760	169,526
Jute	64,357	78,549	76,113	139,900	123,394
News Print	N.A.	N.A.	N.A.	17,952	38,067
Other Paper	95,264	101,156	127,505	128,198	123,184
Timber	3,749	10,700	11,072	28,831	53,092
Logs	N.A.	N.A.	N.A.	N.A.	N.A.
Tea	56,167	72,228	48,103	50,435	48,016
Iron & Steel	425,609	467,521	442,442	437,420	383,657
Motor Vehicles	30,602	42,092	31,261	39,925	32,880
Tractors	N.A.	N.A.	N.A.	1,464	159
Rubber Scrap	N.A.	N.A.	N.A.	N.A.	4,243
Other Cargo	1,721,181	1,958,980	1,680,089	1,720,391	1,782,720
Dangerous Cargo	19,881	49,632	62,979	59,222	64,921
AFGHANISTAN CARGO:					
Fertilizer	-	-	-	-	-
Wheat	202,571	-	-	-	-
Other Cargo	65,132	37,055	13,146	15,216	21,922
LIQUID BULK IMPORTS :					
Crude Oil	4,332,130	4,339,804	4,088,291	3,726,191	3,714,902
Diesel & Other Oil	1,769,662	1,811,453	1,778,769	1,938,389	2,155,236
Fuel Oil	N.A.	N.A.	N.A.	N.A.	516,347
Kerosene Oil	48,718	276,053	504,594	525,935	557,112
Petrol	10,657	55,754	127,146	149,560	36,521
Palm Oil	N.A.	N.A.	N.A.	625,614	453,335
Soyabeen Oil	754,888	916,826	761,254	216,972	246,151
Tallow	N.A.	N.A.	N.A.	112,020	119,539

EXPORTS

COMMODITY	1982-83	1983-84	1984-85	1985-86	1986-87
DRY EXPORTS:					
Bulk Cargo					
Fertilizer	-	135,319	184,673	348,761	-
Rice	606,179	261,998	134,674	158,083	377,573
Steel-	-	-	--	N.A	57,175
Wheat	14,821	156,928	63,290	25,191	9,124
Chrome Ore	2,717	-	27,539	6,906	19,105
GENERAL CARGO:					
Cotton	89,903	25,100	97,033	511,487	492,063
Cotton Yarn	4,880	1,991	6,685	55,256	138,051
Cowdung	145,658	79,204	73,932	106,348	165,740
Food Grain	82,758	59,039	37,187	3,019	-
Guwar Meal/Oil Cake	11,357	19,610	535	48,606	54,260
Leather (Hide & Skin)	91	66	995	7,541	10,738
Rice Bran	N.A.	N.A.	N.A.	82,148	54,448
Sport Goods	376	1,646,	498	5,101	8,061
Textiles	11,232	18,951	14,694	65,159	85,754
Other Cargo	948,300	920,032	891,153	891,410	975,336
LIQUID BULK EXPORTS:					
Molasses	640,455	378,977	669,695	736,345	473,303
Petroleum Products/ Alcohol	521,327	286,640	294,057	13,224	54,507
Neptha	N.A.	-	-	138,052	116,862
Oil (for Bunkers).	N.A.	-	-	106,481	39,162

h) REVIEW OF CARGO HANDLING OPERATIONS DURING THE FISCAL YEAR 1986-87:-

1) Total Imports and Exports of the country through the Karachi Port.

During the year ending 30th June, 1987, the Port of Karachi has handled 16,305,627 M/Tons of cargo. This is 3.07% more than the last year tonnage of 15,819,709 M/Tons. The increase is mainly due to increase in the Import of dry bulk, liquid bulk cargo and exports of dry general cargo.

2) Imports of dry cargo. During the year, the Port of Karachi has handled 5,381,214 M/Tons of dry cargo which is 3.16% more than the import of 5,215,910 M/Tons last year. A substantial quantity of fertilizer, steel scrap, sugar was imported during the year under review.

3) Imports of liquid bulk. During the year, the Port of Karachi has handled 7,799,143 M/Tons of liquid bulk which is 6.92% more than the import of

16

7,260,054 M/Tons last year. The increase is due to increase in the import of diesel oil, liquid fuel, Kerosene Oil and tallow.

4) Exports of dry cargo. During the year, the Port of Karachi has handled 2,441,436 M/Tons of dry cargo which is 5.17% more than the exports of 2,315,016 M/Tons last year. The increase is mainly due to increase in the export of cotton yarn, cowdung, leather, textile, rice, steel, chromore and other general cargo.

5) Export of liquid bulk. During the year, the Port of Karachi has handled 683,834 M/Tons of liquid bulk which is 71.2% less than the last year. The decrease is due to less export of molasses, naptha & oil (for bunkers).

i) Record performance in the handling of cargo.

1) Highest tonnage ever handled during the year: During 1986-87, the Port of Karachi handled 16,305,627 M/Tons, the highest ever in one year. The previous highest tonnage was 15,819,709 M/Tons during the year 1985-86. This was the result of good professional management, team effort and esprit-de-corp on the part of the Karachi Port Trust, and also engendered by the Port authorities between the port systems, stevedores, consignees and land carriers (including N.L.C.).

2) Highest cargo handling in a single day: On 24.10.1986(Friday) the Karachi Port handled 106,186 M/Tons of total cargo in a single day, which is the highest so far achieved in a single day. The previous record was 96,396 M/Tons on 20.6.1986.

3) Dry cargo : On 1st April, 1981, 42,518 M/Tons of dry cargo was handled in one day which is the highest ever in a single day.

4) General cargo :

i) On 1st December, 1985, 30,264 M/Tons of general cargo was handled in one day which is the highest ever handled in a single day. The previous record was 29,896 M/Tons on 21.12.1984.

ii) On 3.4.1987, 8,025 M/Tons general cargo was discharged from M. V. "Trinta" the highest tonnage ever handled in one day from a single ship. The previous record was 7,313 M/Tons ex- m.v."KIWI ARROW" on 5.3.1987.

5) Wheat:

i) On 12th January, 1979, 17,423 M/Tons of Wheat was

17

discharged from 4 ships in one day, the highest ever in a single day.

ii) On 28th February, 1980, 9,140 M/Tons of Wheat was discharged from M.V. "NESTOR" the highest tonnage ever handled in a single day from a single ship.

iii) On 12th March, 1984, 4,812 M/Tons wheat was loaded in a single day, on board M.V. "Alexandraki" which is a record handling of wheat loading at the Port in a single day on a single ship.

6) Fertilizer:

i) On 1st April, 1981, 15, 304 M/Tons of fertilizer was discharged from 2 ships, the highest ever in a single day.

ii) On 1st April, 1981, 12,235 M/Tons of Fertilizer (Urea) was discharged from M. V. "FAIRWIND", the highest ever in a Single day from a single ship.

iii) On 5th March, 1984, the Port of Karachi handled 2,939 M/Tons of rock phosphate, which is a record handling of rock phosphate at the Port of Karachi in a single day.

7) Cement:

i) On 7th April, 1982, 11,274 M/Tons of cement was discharged from 3 ships, the highest ever in a single day.

ii) On 16th April, 1982, 5,577 M/Tons of cement was discharged from M.V. 'AMSTELLAN" the highest ever in a single day from a single ship.

8) Rice:

i) On 12th March, 1980, 15,530 M/Tons of rice was loaded on 3 ships, the highest ever in a single day.

ii) On 31st March, 1981, 10,370 M/Tons of rice loaded in M.V. 'OCEAN ENDEAVOUR" the highest ever in a single day for a single ship.

9) Iron & Steel : On 19th August, 1982, 7,926 M/Tons iron and steel was discharged from M.V. 'HAC BAKHAHL" in one day. The hook hour rate comes to 59.5 tons.

18

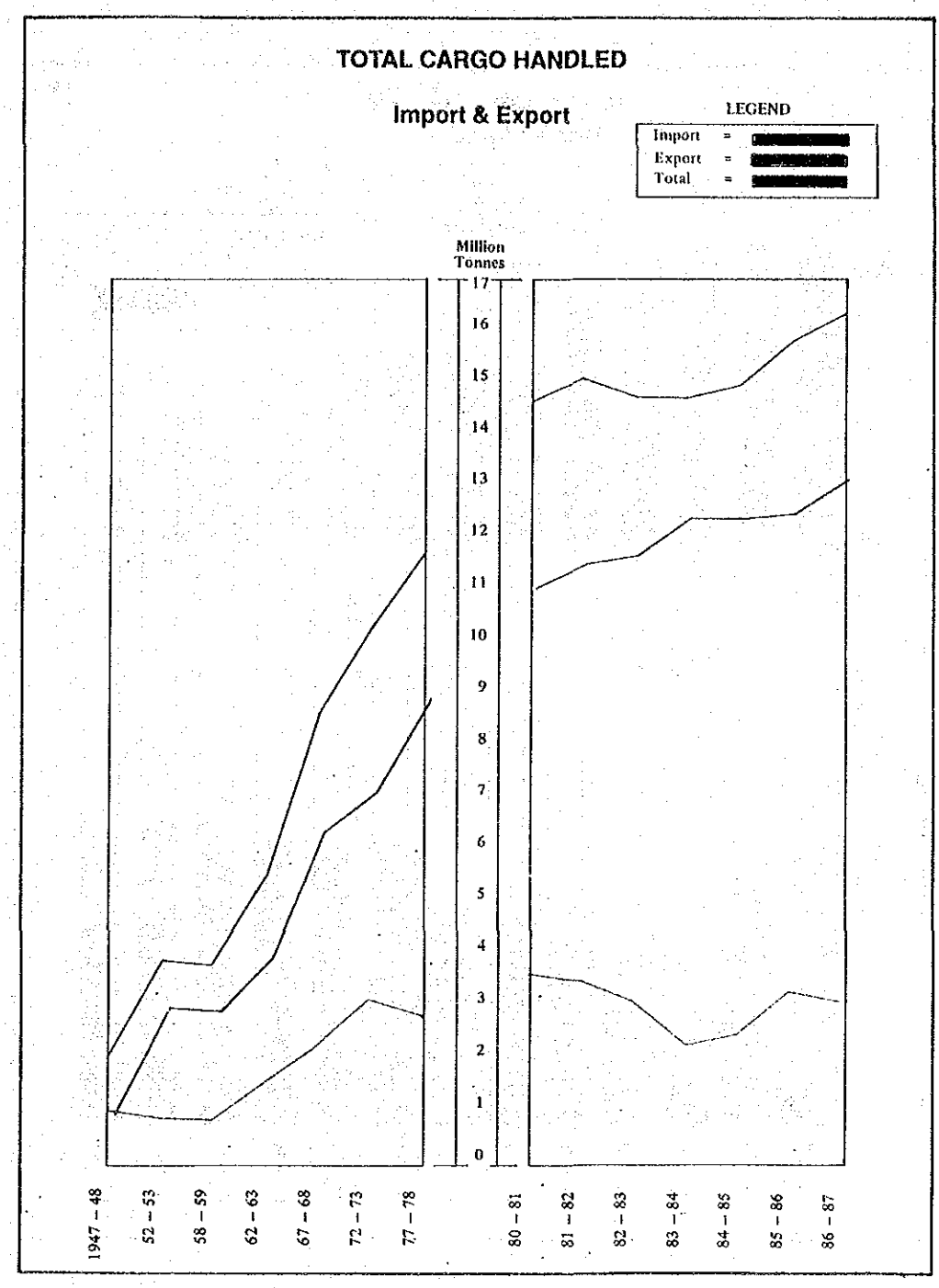
10) Maximum number of ships off Port: On 4th February, 1979, as many as 73 ships were off port waiting for berths, the highest ever on any day.

11) Max. waiting period for general cargo: On 27th August, 1979, the maximum waiting period recorded for general cargo vessels was 31 days which is the highest.

12) Highest general cargo handling on holidays: On Friday the 31st July, 1982, the Port of Karachi handled 17,347 M/Tons of general cargo which is the highest ever handled on any one closed holiday.

13) Best performance during the holy month of Ramzan, 1985.

On 9th June, 1985, 27,098 M/Tons of dry cargo was handled which is the highest tonnage ever handled in a single day in the holy month of Ramzan in any year. The previous highest tonnage in the holy month of Ramzan was 26,873 M/Tons on 26th June, 1984.


TOTAL CARGO HANDLED
Import & Export
LEGEND
Import =
Export =
Total =
Million Tonnes
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10
9
8
7
6
5
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1947 – 48
52 – 53
58 – 59
62 – 63
67 – 68
72 – 73
77 – 78
80 – 81
81 – 82
82 – 83
83 – 84
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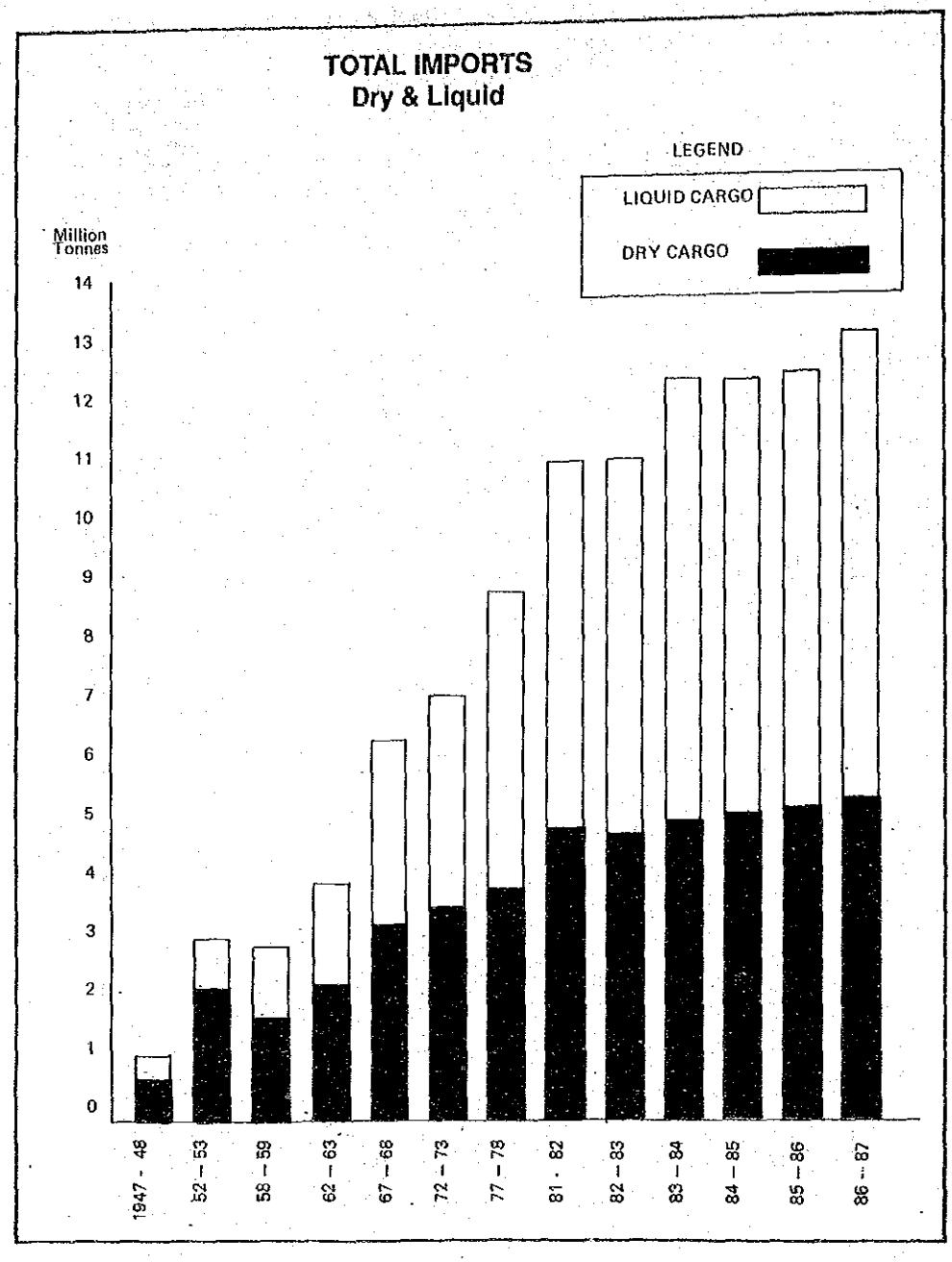
TOTAL IMPORTS
Dry & Liquid
LEGEND
LIQUID CARGO
DRY CARGO
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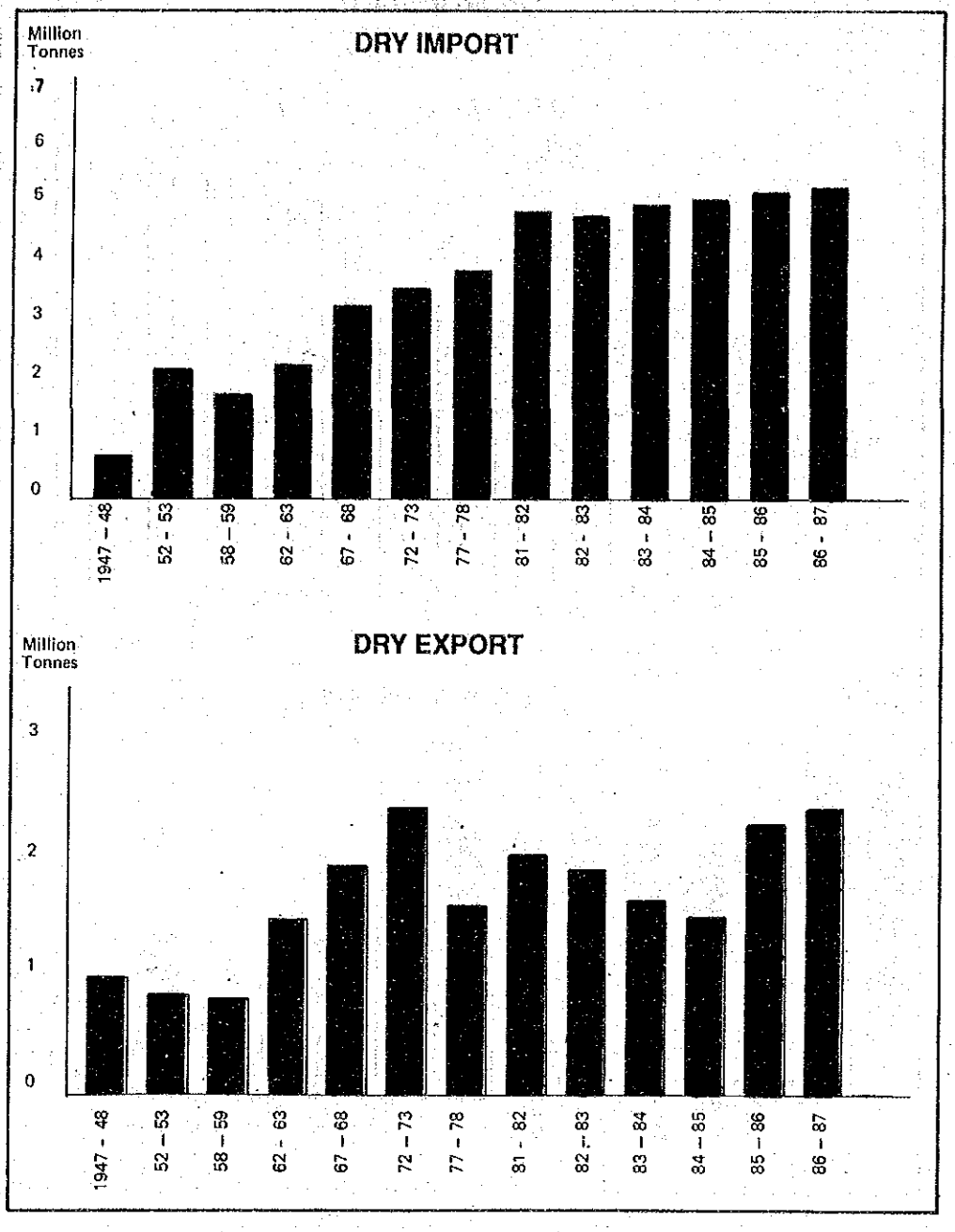
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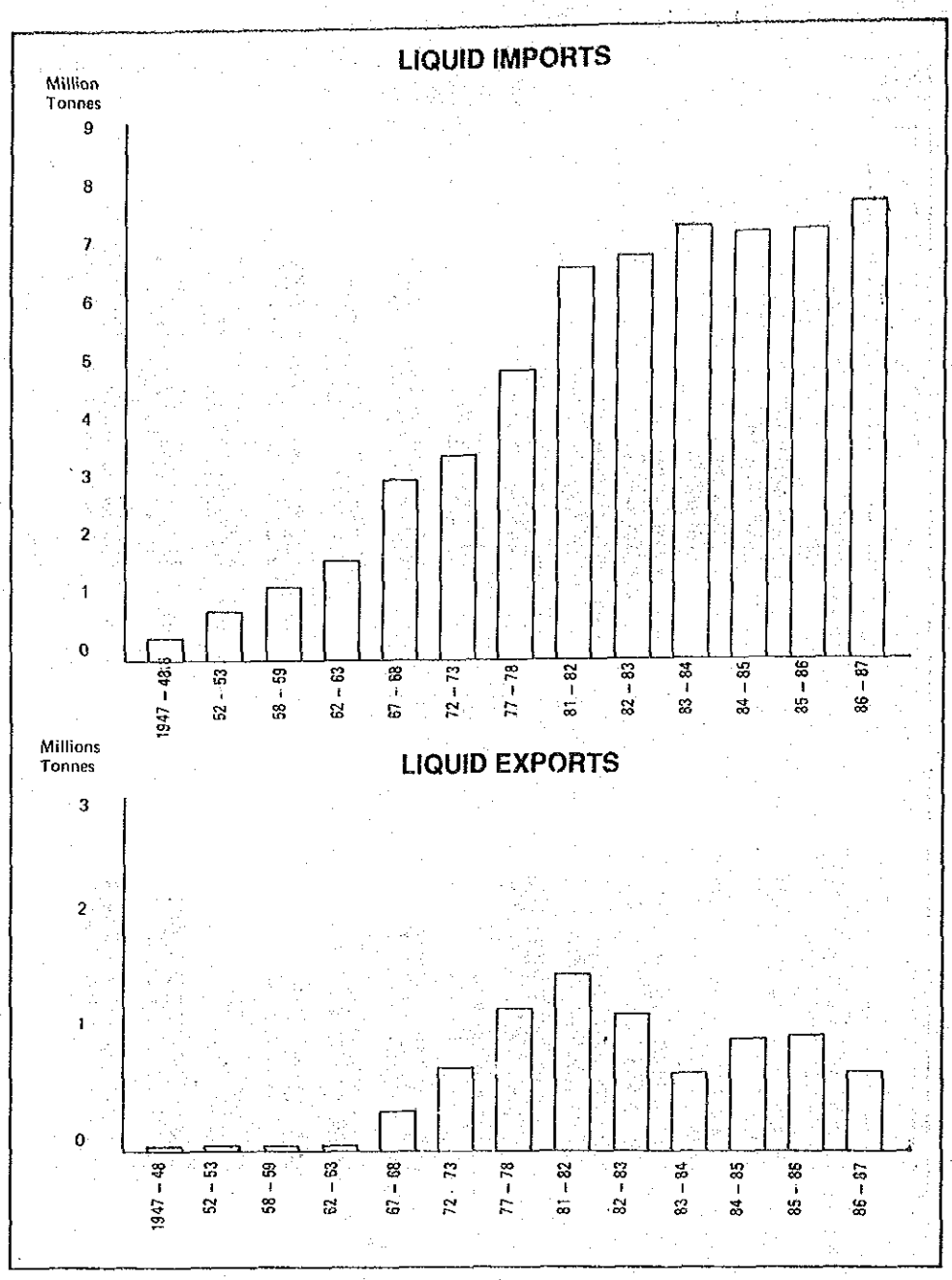
LIQUID IMPORTS
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Millions Tonnes
LIQUID EXPORTS
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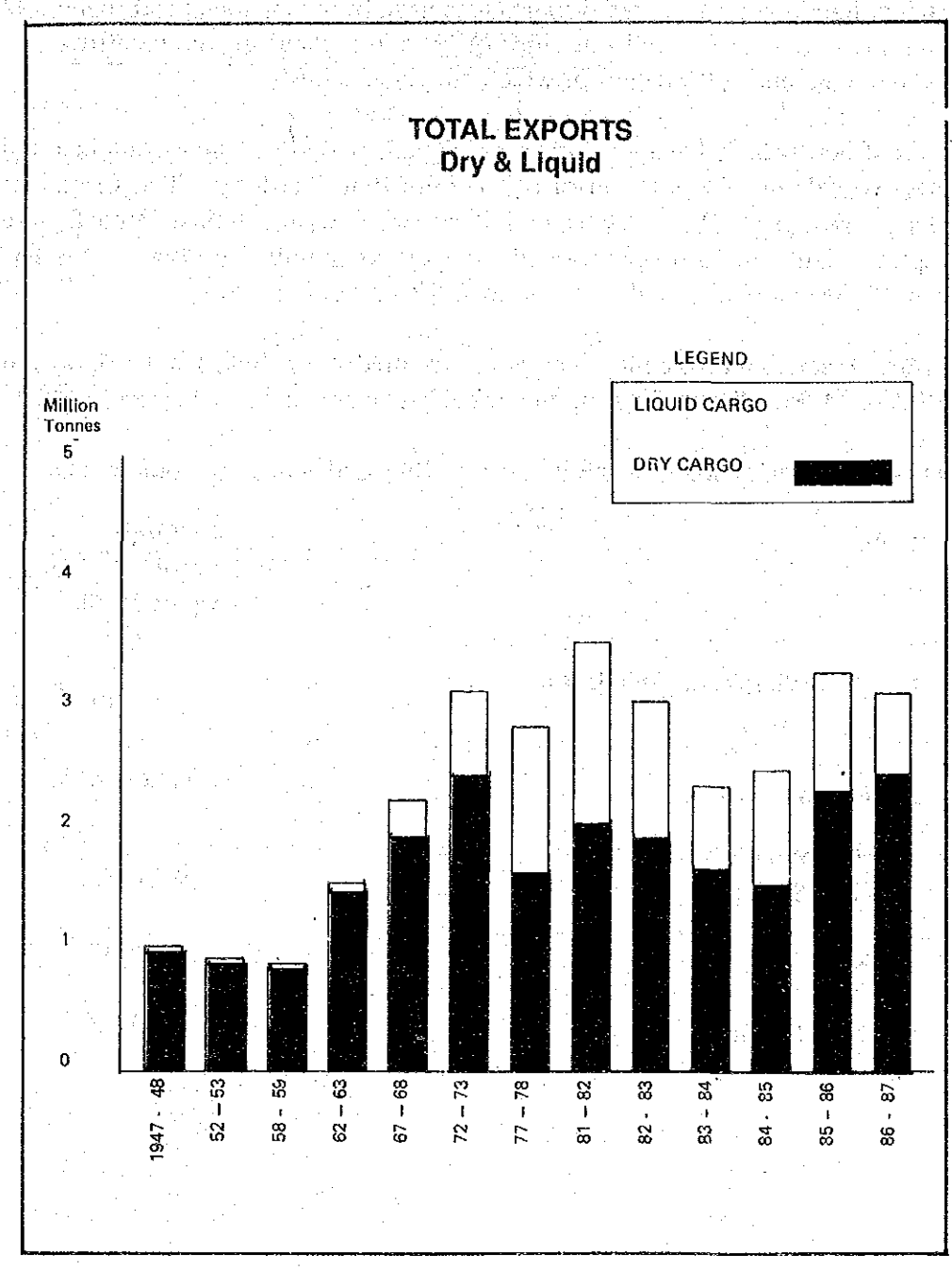
TOTAL EXPORTS
Dry & Liquid
LEGEND
LIQUID CARGO
DRY CARGO
Million Tonnes
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j) Container handling operations : In the year 1973, the Karachi Port had handled 1957 containers. Since then the traffic of containers has recorded a gradual increase. During the current year 1986-87, the container traffic was as high as 292,168 TEUs. Today Karachi Port has become a well organised container handling port. Large storage areas have been developed and marked as Container Parks within and out-side the Port for handling, marshalling and storage of containers, the details of which are given below:-

3 to 4 berths have been earmarked as 'Container Berths' where container and RORO vessels are accorded priority for immediate berthing. The Container Parks at M.I.Yard, West Wharf and Keamari Groyne at East Wharf were completed and put into operation during the year under review. This has enhanced the container handling capacity of the Port of Karachi.

M/s. American President Lines have installed a 40 Tons Gantry Crane at Berth No. 24 West Wharf for handling of their regular Container Service.

Details of the areas used for handling, marshalling and storage of containers.

S. No.	Section Area under C.F.S. (Sq. meters)
1. East Wharf alongside Berth No. 1 to 17	92,734.00
2. Keamari Groyne	94,866.00
3. East Wharf Timber Pond, (Pak Shaheen)	9,222.00
4. M. I. Yard.	53,430.00
5. Juna Bunder	6,000.00

CONTAINER TRAFFIC HANDLED DURING THE LAST 5 YEARS.

IMPORTS

YEAR	FULL		EMPTY		TONNAGE
	20'	40'	20'	40'	
1982-83	36,999	9,392	6,273	2,755	544,853
1983-84	40,749	10,649	3,028	2,785	782,561
1984-85	42,034	10,832	6,806	6,933	785,627
1985-86	46,282	13,616	14,370	16,941	997,311
1986-87	56,571	17,595	20,691	17,693	1,235,831

EXPORTS

YEAR	FULL		EMPTY		TONNAGE
	20'	40'	20'	40'	
1982-83	24,899	10,110	7,600	1,972	488,839
1983-84	28,060	8,817	14,121	4,955	519,070
1984-85	36,646	13,770	13,602	3,628	721,002
1985-86	51,521	27,926	9,691	2,628	1216,087
1986-87	65,456	31,739	9,420	2,988	1477,764

SUMMARY

YEAR	TOTAL TUES	IMPORT AND EXPORT TOTAL TONNAGE
1982-83	124,229	1,833,692
1983-84	140,370	1,301,631
1984-85	169,415	1,506,629
1985-86	244,086	2,213,398
1986-87	292,160	2,713,595

k) PASSENGER TRAFFIC : Passenger Traffic is mainly due to Hajees and Passengers travelling to and from the Middle East countries. There are only 3 regular passenger vessels M.V. 'SHAMS", "S.E. ARAB" & S. E. "ABID" plying between Karachi and the Middle East. Passenger handling statistics are as under :-

PASSENGER TRAFFIC FOR THE LAST 5 YEARS.

	PASSENGERS			PILGRIMS			TOTAL		
Period	Disem-barked	Embar-ked	Total	Disem-barked	Embar-ked	Total	Disem-barked	Embar-ked	Total
1981-82	14,087	2,996	17,083	11,121	11,121	22,242	25,208	14,117	29,825
1982-83	5,977	2,012	7,989	11,072	10,871	21,943	17,049	12,883	29,932
1983-84	4,373	3,825	8,198	11,062	11,606	22,668	15,435	15,431	30,866
1984-85	5,301	5,629	10,930	8,819	9,077	17,896	14,120	14,706	29,826
1985-86	8,319	6,166	14,485	6,333	8,513	14,846	14,652	14,679	29,331
1986-87	6,399	6,073	12,472	8,582	9,911	18,493	14,981	15,984	30,965

VESSELS HANDLED DURING THE LAST 5 YEARS.

ITEM	1982-83	1983-84	1984-85	1985-86	1986-87
"Shipping"					
Number of Vessels entered	1,827	1,688	1,649	1,828	1,922
Net Registered Tonnage	12,422,429	12,071,662	12,384,941	13,211,593	13,518,185
Number of Vessels cleared	1,769	1,627	1,614	1,787	1,885
Net Registered Tonnage	12,027,331	11,675,164	12,026,436	12,895,284	13,235,589
"COUNTRY CRAFTS"					
Number of Country Crafts Entered	910	787	819	795	641
Number of Country Crafts Cleared	889	786	804	790	652

Labour Productivity: Hook hour rates for the year 1986-87 are as under :-

	General Cargo M/Tons	Bulk M/Tons	Overall M/Tons
Import :	15.53	38.40	26.96
Export :	21.32	44.20	32.76
Total :	18.42	41.30	29.86

I) **Serviceability state of mechanical appliances.**

The serviceability percentage of cargo handling equipment directly affects the working of vessels. The efficiency in quay transfer cycles and smooth movement of cargo from wharf to transit sheds, Plinths, other areas and their stacking depends on the availability and smooth functioning of the cargo handling equipment. With the guidance of the "Port Operations and Equipment Maintenance Review Committee" the serviceability position of cargo handling equipment during the year under review has been maintained at an optimum level, the details of which are given as under :-

28

SERVICEABILITY STATE OF CARGO HANDLING EQUIPMENT IN 1986-87

S. NO.	Type of Vehicles	Total No. on Stock	In Commission	Out of Commi-ssion	% of Service-ability
1.	Shunting Tractors	12	10	2	83%
2.	Motor Trucks	32	25	7	78%
3.	Towing Units	192	91	101	47%
4.	Fork Lifts	80	41	39	51%
5.	Mobile Cranes (3 Tons)	84	64	20	76%
6,	Mobile Cranes (10 Tons)	2	2	-	100%
7.	Trailors (3 Tons)	521	301	220	58%
8.	Trailors (5 Tons)	150	76	74	51%

m) Modern Communication Facilities : In order to have prompt and timely information about the situation of ships and their cargo, modern communication facilities have been provided both at the East and the West Wharves. Telexes have been provided which are available for use by all the members of the trade and port users. Each berth has been equipped with two direct telephone connections.

Inter Com system connecting each section and shed with one another has already started working at West Wharves. Similar arrangement is being made at East Wharves too:

Public Complaints : A Public Complaint Cell under the supervision of a Traffic Officer is working under the direct control of the Traffic Manager. Complaints made by the port users are promptly investigated and redressed without unnecessary delay. The number of complaints has been considerably reduced showing downward trend.

The achievements made in cargo handling and ship operations including prompt clearance was possible due to the stream-lining of cargo handling operation, stowage and marking of consignments and packages and efficient delivery system for the convenience of the consignees.

Conclusion : During the year ending 30th June, 1987, the Port of Karachi has handled 16,305,627 M/Tons of cargo which is a record handling so far achieved and is 3.07% excess than that of the previous year 1985-86. The increase has been due to increase in the import of dry bulk cargo, liquid bulk and export of dry general cargo as compared to previous year. The slackness in shipping business still continues all over the world affecting our imports/exports. However, the Port of Karachi is foregoing ahead to serve the national trade and economy and achieve still higher targets in providing prompt and efficient service to all its users.

n) **SHIPPING TRAFFIC REVIEW DURING THE YEAR 1986-87:**

Total number of ships handled (Inward/Outward and shifting) under pilotage charge comes to 5171 excluding Pakistan Navy Ships, as against 5105 handled during the previous year 1985-86, an increase of 1.29%.

The maximum number of ships in the harbour on any particular day during the year was 32. The daily average number of ships alongside the wharf and oil pier was 32 and at Moorings was 1.18.

The largest vessel both in tonnage and length entered and accommodated during the year was the oil tanker, "Erato" with Gross Tonnage 50430 and net tonnage 32376 and overall length 245.36 meters.

FINANCIAL REVIEW

BUDGET ESTIMATES :

The Budget Estimates for the year under review viz. 1986-87, anticipate a Net Surplus of Rs. 107.2 million.

INCOME :

The anticipated Income for the year 1986-87 has been placed at Rs. 996.6 million comprising of the following trading activities.

		Million
Cargo Handling	Rs.	465.5
Cargo Storage	Rs.	200.0
Ship Movement & Services	Rs.	192.3
Property Management	Rs.	83.3
TOTAL OPERATING INCOME ESTIMATES	Rs.	941.1
MISC. INVESTMENTS INCOME	Rs.	55.5
TOTAL INCOME :	Rs.	996.6

EXPENDITURE :

The anticipated expenditure for the year 1986-87 has been placed at Rs. 889.4 million. There has been anticipated a surplus of Rs. 51.7 million in the Trading activities. After addition of Miscellaneous and Investment Income an overall surplus of Rs. 107.2 million before debt Repayment and Capital financing have been anticipated. The break-up of expenditure is as under :-

		Million
Labour	Rs.	411.2
Stevedoring	Rs.	90.6
Material & Supplies	Rs.	75.9
Fuel	Rs.	30.7
Outside repair & maintenance	Rs.	50.1
Admn. & overheads	Rs.	50.7
Depreciation	Rs.	110.0
Loan Interest	Rs.	70.2
TOTAL :	**Rs.**	**889.4**

CAPITAL EXPENDITURE BUDGET.

All allocation of Rs. 428.9 million has been kept in the Budget Estimates for the year 1986-87 for Capital Expenditure under the heads :-

			Million
(a)	Building & Other Structures	Rs.	243.5
(b)	Craft, Plant & Equipment	Rs.	185.4
	TOTAL	Rs.	428.9

The Department-wise allocation is as under :

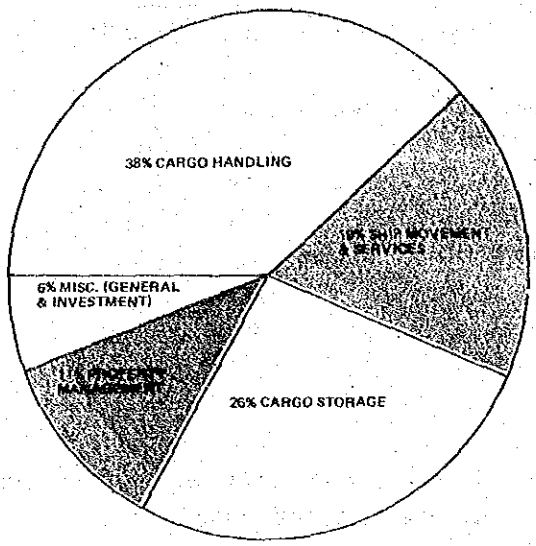
			Million
(a)	Chief Engineer	Rs.	72.1
(b)	Planning & Development	Rs.	250.7
(c)	Chief Mech. & Elect. Engineer	Rs.	106.1
	TOTAL	Rs.	428.9

INVESTMENTS:

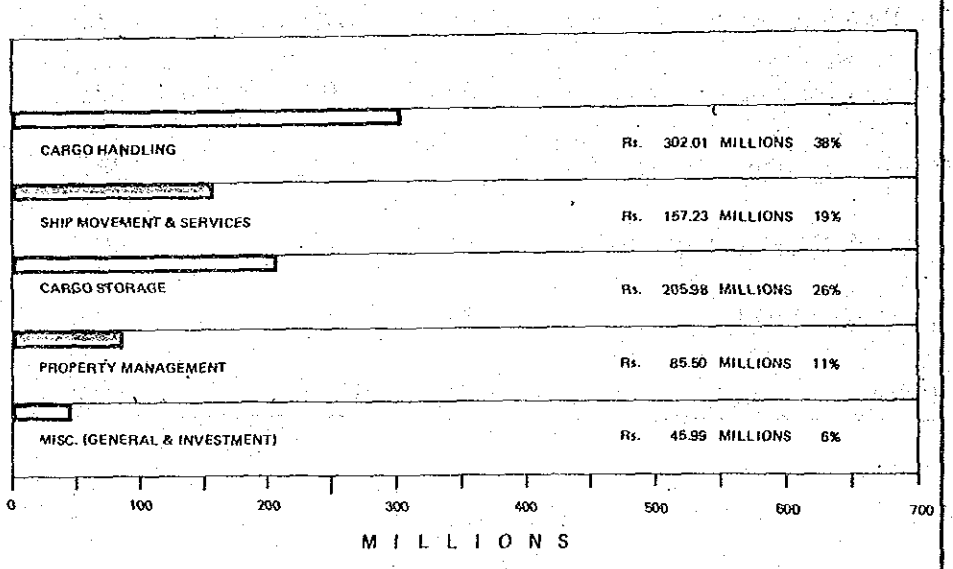
The Karachi Port Trust Investments as on 30th June, 1987 aggregate to Rs. 151.8 million. These are held in the following funds :-

	AMOUNT IN MILLION		% OF TOTAL
1. Revenue Account	Rs.	11.1	7.3
2. Reserve Fund	Rs.	60.6	39.9
3. Sinking Fund	Rs.	58.0	38.3
4. Dep. Replacement Fund	Rs.	16.5	10.9
5. Capital Fund	Rs.	5.6	3.6
TOTAL	Rs.	151.8	100.0

DISTRIBUTION OF REVENUE ACCOUNT INCOMES
1986 - 87



TOTAL INCOME Rs.796.71 MILLIONS



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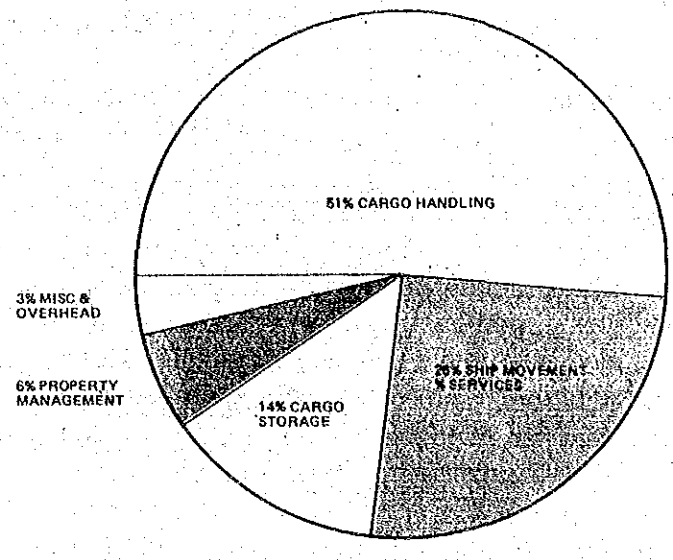
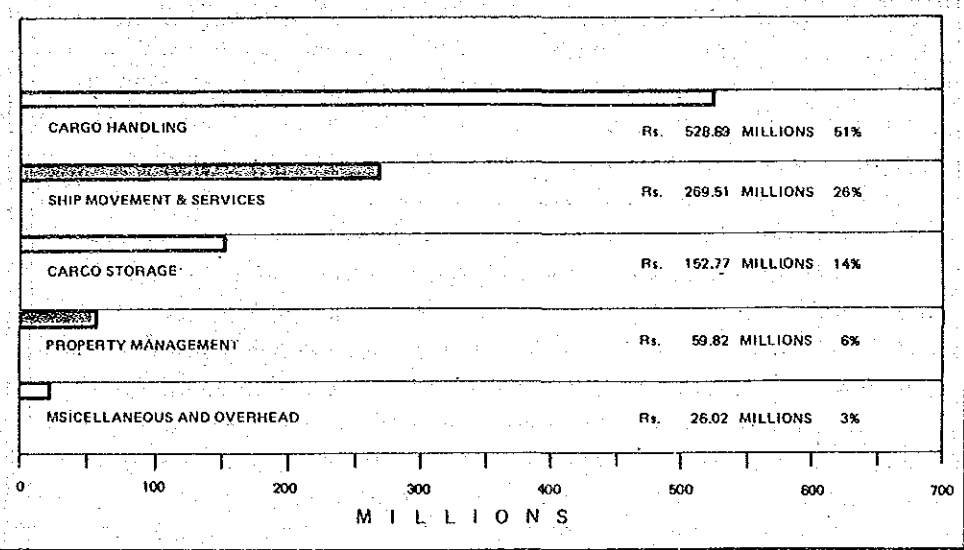
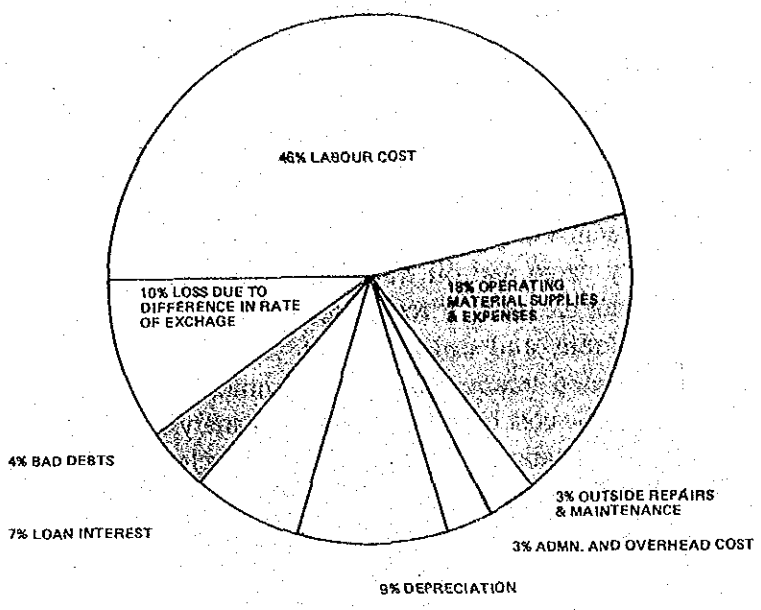
DISTRIBUTION OF REVENUE ACCOUNT EXPENDITURE 1986 - 87



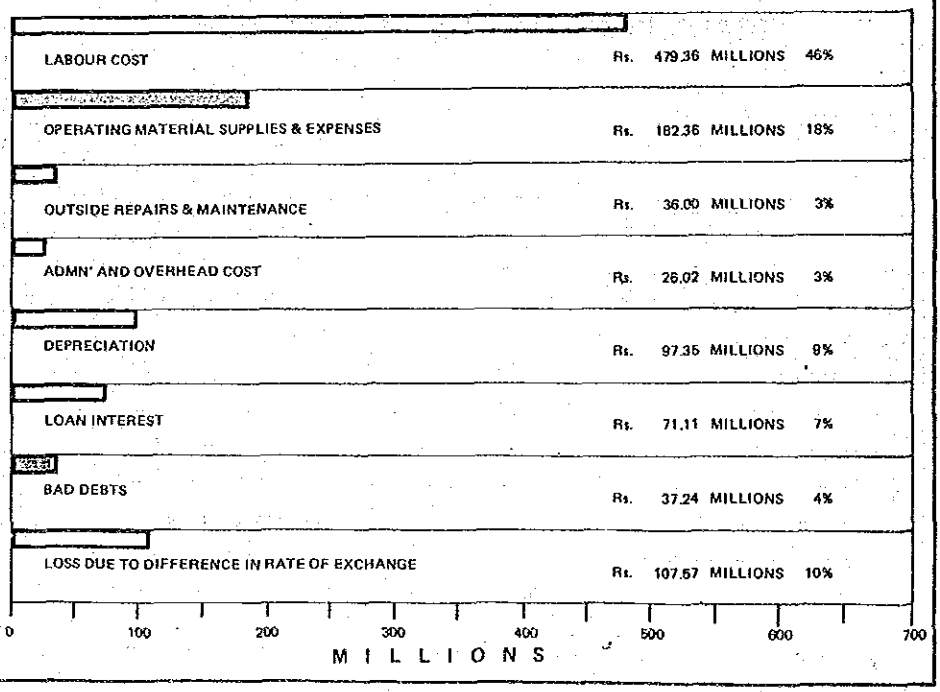
TOTAL EXPENDITURE Rs.1037.01 MILLIONS.



DISTRIBUTION OF OPERATING EXPENDITURE
1986 - 87



TOTAL OPERATING EXPENDITURE Rs.1037.01 MILLIONS



35

PORT PLANNING, DEVELOPMENT AND CONSTRUCTION.

PORT DEVELOPMENT.

The largest ever programme for the modernization, progressive expansion and development of Karachi Port, on scientific and economic lines is in hand, and new facilities for dry cargo and oil traffic are being added according to a well conceived plan to meet the forecast requirements of trade and shipping. The port planning, development and construction schemes forged ahead with a continuously accelerated tempo, and KPT's immediate and long term plans, supported with economic cost benefit optimisation analysis, brought laurels to the Port of Karachi, both in national and international circles, resulted in eliminating cargo & shipping congestion and off-port waiting time, & saving 100 million dollars per annum to the national economy. All major construction works under the Third Project schemes were completed and were put into phased operation. With the completion of the Third Project Works, the port's dry cargo handling capacity has been increased from 5 million to 6 million tons of equivalent dry general cargo; container handling capacity from 5000 TEUs to 300,000 TEUs; rail handling capacity of the Port from 1300 to 2000 wagons per day; and major improvements in road systems & networks. All works under the Fourth Project were completed and the project brought in full operation, increasing the ports oil handling capacity from 5 to 10 million tons per annum. Two new VSP harbour tugs under the replacement of Craft & Equipment Programme were completed and made operational. The project for Modern Integrated Container Terminal for meeting the requirements of third and fourth generation gearless container vessels is being prepared for sanction. The pilot boats construction work taken in hand by the Karachi Shipyard is much behind schedule and efforts are in hand to bring these boats into port operational use by December, 1987. The Manora dry-dock was rehabilitated, and with ancillary services has been commissioned during October, 1986 for giving a further life of 25 years. A new modern warehouse for Afghan Refugees goods for and on behalf of UNHCR/CCAR has been constructed and brought in use. Preliminary engineering studies for the Karachi Port Modernization Project - Ports-V, under World Bank financing arrangements are well advance, and a credit is under negotiations with the World Bank authorities. The project incorporates construction of a 75,000 DWT Liquid Products Marine Terminal in the lower harbour of Karachi Port in replacement of old out-lived oil berths OP-II and OP-III; procurement of bucket dredger with ancillary harbour craft in replacement of an existing old bucket dredger; and

procurement of mobile container handling cranes with upgradation of wharf and transit areas at existing general cargo berths for making them suitable for container operation.

A. MODERN INTEGRATED CONTAINER TERMINAL COMPLEX:

The Master Plan for the Port of Karachi, prepared under the Second Project, established that the west bay of the Karachi Harbour has potential for the development of an additional 100 shipping berths. Detailed hydrographic, hydraulic, oceanographic, soils, systems, economic and engineering studies were completed under a Grant from the United Nations Development Fund with the World Bank as the executive agency for administering the U.N.D.P. Grant. The World Bank Group have also committed to provide necessary soft-term IDA Credit for the first stage development, comprising of fully Integrated Container Terminal suitable for third and fourth generation container vessels, with all required ancillary facilities.

In accordance with the policy guidelines framed by the Planning Commission and approved by E.C.C., the Karachi Port is to develop as a general cargo handling port. International technological developments in maritime transport and port sector necessitate containerization of general cargo. Under the Third Project Schemes, the KPT has developed improvised capacity for handling upto 300,000 TEUs of container traffic. However, future trends and forecasts established in comprehensive feasibility study on containerization by the J.I.C.A. Team from Japan during 1980-83, necessitate that fully mechanized container facilities should be developed in the west bay of the Karachi harbour. The first stage development includes the construction of twin-berth container terminal for handling third and fourth generation gearless container vessels, together with 40 - ton lift container gantry cranes, shore handling and transfer equipment, adequate transit area with container parks, freight and consolidation stations, and all required services, and infrastructure facilities, etc.

The feasibility study prepared by the JICCA was considered by a high level committee under the chairmanship of the Federal Minister for Communications, and comprising of Federal Secretaries Communications, Railways and Planning; representatives of Chambers of Commerce & Industry, Shippers Council, Shipping Lines, P.N.S.C. and all concerned agencies. After consideration of the presentations and due deliberations on the matter, the Committee unanimously approved that the integrated container terminal should be constructed at Karachi Port in accordance with the recommendations of the JICA study.

This project is estimated to cost Rs. 1200 million and will add 2 million tons dry cargo in containers capacity to the Port. The project on proforma PC-I is being prepared for submission to the Federal Government/Planning Commission for approval of the ECNEC. The construction works at site are expected to