THE ROYAL NORWEGIAN MINISTRY
OF DEVELOPMENT COOPERATION

Evaluation Report 2.84

INTER-ISLAND TRANSPORT INDONESIA

E V A L U A T I O N

O F

I N T E R - I S L A N D T R A N S P O R T

I N D O N E S I A (I N S 002)

March - April 1984

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SUMMARY

In connection with a commercial delivery of 20 coastal transport vessels and 10 tug boats to Indonesia from Norwegian yards, NOK 70 million was granted from the Norwegian Government under an agreement signed on 14 May 1976. Administrative responsibilities for the implementation of the grant was commissioned to the Directorate General of Sea Communication (SEACOM) on the Indonesian part, and to the Norwegian Agency for International Development (NORAD) on behalf of Norway.

Indonesia has forwarded a request to Norway for further assistance to training. With the view of assessing further assistance, a project evaluation has been conducted.

The team has found that the 1976 Agreement led to a successful contribution to the economic and social development of Indonesia.

Taking regard to the special competence enjoyed by Norway in the shipping sector, the active and socially responsible development policies followed by Indonesia, the needs of the broad masses of Indonesia and the tremendous needs for maritime transport services in the Indonesian archipelago, the team will recommend further cooperation also in the future between Norway and Indonesia.

The evaluation team has concluded that the particular form of aid and private sector contribution contained in the 1976 Agreement has proven itself an apt and efficient form of development cooperation and thus could serve as a useful model for future Indonesian-Norwegian development partnership.

By combining the efforts of the private sector and development assistance the latter was inserted in a real-life framework and thus was given a practical orientation.

The evaluation has also proven that experiences should be utilized in order to improve future cooperation.

The evaluation team has conducted a relatively detailed study of the process leading up the 1976 Indonesian-Norwegian Agreement. The decision-making process in its main elements is described in Chapter 1: "How the Project came About".

The project originated in the World Bank's Second Shipping Project of Indonesia. The purpose of the project was to assist the country's economic development by reducing the cost and improving the reliability of internal shipping.
The pre-condition was for co-finance with the World Bank.
The project, however, eventually became a bilateral project where Indonesia emphasized that the winning offer would be the one that could provide the best total development project as concerns price, quality, technology transfer, financing and development assistance. The Indonesian Government insisted on international bidding, then agreed to restricted bidding, and finally, after offers of a sufficient amount of development assistance from Norway, accepted the Norwegian offer represented by North West Engineering (NWE). The World Bank's concern in general is to see to it that the recipient gets the best possible price and quality. Financial conditions as outlined by the World Bank and finally fulfilled by Norway were about identical.

The project was first brought to the attention of Norwegian authorities by the Embassy in Jakarta as part of its regular reporting in November 1974. In the spring of 1975 Norwegian shipyards were informed about the project through Norwegian bankers visiting Jakarta and by the Embassy in Jakarta. The relevant Norwegian authorities took an active interest in the project and the handling, including the element whether development assistance was to be included in the total package, was done in an inter-ministerial group set up in August 1975.

The politically responsible leadership for Norwegian development assistance was in favour of assigning aid to the project. It was found that this type of project was a good example of development assistance and technology transfer; that the shipbuilding contract was a healthy one from the point of view of

both Indonesia and Norway; and that aid was needed to obtain the contract.

Another major factor behind the decision was that the Norwegian shipyard sector was in difficulty and could benefit from the project. The arguments just listed were also prominent in the approval by Parliament on the 6th of April 1976. Untying of aid was confirmed to be still the general principle, but the principle did not exclude exceptions, particularly in relation to technical assistance, maritime assistance and non-main partner countries.

In Chapter 2 a short description is given of Indonesia's development policies and the relevance and importance of inter-island sea transport.

The 13,000 islands comprising the Republic of Indonesia sustain the fifth most populous country in the World. Today's population numbers approximately 160 million. Income per capita was US$ 530 in 1981 and Indonesia has thus joined the ranks of lover-middle income countries such as Kenya, Zambia and Nicaragua. Real disposable income is far less since the State sector part of export earnings is so predominent (70% of State income comes from oil) and since the work force employed in traditional agriculture is still around 60%. On the other hand Indonesia comes out well in comparative income distribution according to available statistics.

The team has not described and evaluated political developments in Indonesia in any depth. Since the new government assumed power in 1966, economic achievements have been substantial with real GDP growth averaging 7.5% a year. Despite such an encouraging performance, latest available estimates indicate that in 1976 the per capita consumption of 50 million people was less than US$ 90 a year. The dimensions of poverty in Indonesia, although declining, remain overwhelming. A reason for optimism lies in the continuing strong performance of the agricultural sector. A large proportion of total funds was used for investments in agriculture, small scale enterprises and rural development in a broad sense. There are quite naturally sources of potential economic and social instability. As in most develop-

ing countries, great social inequalities persist in spite of rapid modernization. Not surprisingly, modernization itself has created new contradictions, which might bring about abrupt political changes.

Continued rapid economic growth is probably essential if Indonesia is to have any hope of productivity absorbing the 19 million new entrants into the labour market during the 1980's.

In recent years the Government has embarked upon a massive expansion in its social development program, apparantly with good results. For example, impressive gains have been made in expanding access to education. Increased access to education has also been an important factor in achieving good progress in health. Efforts in family planning have been successful. The nutritional status of the population has improved. The position and role of women are vital to any society's development, and this is recognized by the Government. Indonesian women, it appears, share to a large degree in social and economic progress.

The deterioration in the international economic environment has led to a sharp change in Indonesia's external financial prospects for the near-term at least. A continued process of institutional and policy adjustment will be required if Indonesia is to sustain its impressive development momentum through the decade; human resource development; export diversification and domestic resource mobilization; and expansion of opportunities for development of the private sector. The importance of the technical assistance that is embodied in official aid flows is stressed by the World Bank. The training components of many of these projects and programs are extremely important for Indonesia's development. It seems fair to conclude that the Indonesian authorities pursue a development-orientated policy and a policy of social justice. Compared with a number of developing countries the process of development in Indonesia appears socially sound.

Relevance of inter-island transport

Communications generally are life-lines in the Indonesian archipelago. The relevance and importance of inter-island transport is shown by the fact that Indonesia is a maritime nation, con-

sisting of some 13,000 islands and stretching over long distances. Marketing of products, supply of vital social services and making it possible for surplus population to migrate within the country are some important illustrations of the crucial role played by the sector.

The functioning of the sea transport system is fully dependent on the people engaged in the maritime sector. Both Government and the maritime industry recognize the need to train and educate the personnel in the sector. Manpower development and training facilities are lacking both in numbers and in quality. Poor on-board maintenance and equipment, incompetent crews and port personnel explain to a large extent why the number of mishaps is high.

A better sea transport system would inter alia contribute to evening out imbalances in market supply and demand within Indonesia, develop the volume of domestic and foreign trade and reduce seaborne costs. At present, almost all domestic seaborne trade is carried by Indonesian ships. These are, however, to a very large extent worn out and/or obsolete. Large-scale replacements and renewals will thus have to take place in the next few years.

Ports and port operations constitute a serious bottleneck to improved sea transport. The many hundred ports of varying capacity and traffic throughout the country have been upgraded in only a limited sense. Cargo handling methods are, understandably, labour-intensive. Tools and cargo handling equipment are of a general nature, hardly allowing handling of modern cargoes.

The maritime industry is still characterized by limited capacity, forcing Indonesian shipowners to place order for new vessels abroad, thereby putting a burden on foreign currency reserves. Also, the operations of the route system are plagued by irregularity of calls, damage to cargo and lack of safety for both passengers and crew members.

In Chapter 3 a short description is given of the Inter-Island Transport Sector.

Present limitations on the maritime transport system will increasingly impede the development of domestic and foreign trade if corrective measures are not taken rapidly and do not work properly. On the other hand, the existing maritime infrastructure and the shipping industry are not utilized to their potential. A considerable part of observed problems in the maritime sector is due to existing procedures and arrangements in sector organization and management.

An action programme has been worked out to achieve a complete reorganization of the maritime transport sector by 1988, i.e. - including a new port hierarchy, restructuring of shipping routes, reforms in shipping industry regulation, improvement in port management and operations, and improving the performance of domestic shipping companies. For this purpose, the Indonesian government has worked out a Maritime Sector Development Program (MSDP) in co-operation with the World Bank. The lead agency for preparing and implementing the program is the Directorate General of Sea Communications (PERLA) of the Ministry of Communications. The program consists of thirteen separate component areas.

The program envisages inter alia a reclassification and reorganization of Indonesia's ports, assigning each port a specific role in the system of ports, hierarchically arranged into gateway collector, trunk and feeder ports. The Government has decided to establish the gateway port administrations as publicly owned profit-based enterprises of PERUM. Throughout, more efficiency and better co-ordination between ports are emphasized.

Along with the reorganization of the port system, the shipping system will also be reorganized. Services will be regulated through route permits awarded after competitive bidding based on specified requirements as to quality and regularity of services. Also, ship maintenance and repair facilities and the provision of technical assistance and training of ship operators will be improved. Of critical importance is the quality of services provided by P.T. PELNI, the state inter-island shipping

company and the largest operator in the country. More and better training programs will be of crucial importance in improving efficiency and also safety in transportation.

Government has decided to convert a high number of log carriers and to scrap vessels older than 30 and 25 years in 1984 and 1985 respectively. The intention is to build new vessels to replace the old. It is questionable, however, whether this in fact will be the result of the scrapping. Present financial and economic conditions in the industry would appear to work in favour of contracting for second-hand ships instead of building new vessels. Also, Shipping companies which have invested in good maintenance of the existing fleet may be unjustly hit by the decision.
No doubt, the outcome of plans and decisions made will be highly dependent on the volume and the terms of financial and other assistance offered to the industry.

The main elements in Chapter 4 "The procurements of ships" are the following:

Planning, building and delivery of ships

The cargo ships' specifications and drawings had been prepared by the Dutch consultant Bureau voor Scheepsbauw (BvS) whereas tugboats were designed by Ulstein Hatlø A/S.

Building started in March 1976; the first ship was delivered in June 1977 and the building program was finalized some 12 months later, 4-5 months delayed. During this period activities took place at 23 sites in addition to Norwegian equipment manufacturers.

The 20 cargo ships of which 10 were designed for carrying passengers were to be delivered by the yard to P.T. PANN, the National Fleet Development Corporation. The 10 tugboats were all transported by heavy-lift to Jakarta and commissioned by SEACOM.

The cargo ships were loaded in European ports and sailed by Indonesian crew assisted by a Norwegian guarantee Engineer (GE). On arrival Jakarta, the cargo ships were transferred from P.T. PANN to P.T. PELNI.

During the guarantee period a team of 6 G.E.'s assisted both SEACOM in their operation of the tugs and P.T. PELNI with technical operation of their new ships.

By and large it may be concluded that most of the controversy that turned up originated from the fact that specifications were not compatible with Norwegian shipbuilders' standards. This should have been taken into consideration when the contract was negotiated and could have been solved more smoothely if NWE had established a separate project department with more manpower to coordinate the planning. A program for the building of 30 ships during a 27 months period is after all a considerable task for those responsible for coordination and execution.

During the maiden voyage to Indonesia one of the ships encountered a major breakdown of the main engine in the Mediterranean, and had to be towed to dockyard for guarantee repairs.

Performance of Parties

The choice of a Norwegian consultant to assist the Indonesian tea proved to be a success, while management in some yards was said to be not too cooperative.

However, considering that Indonesia and Norway were new to each other as cooperative partners, and that a major project was realized in a very short time, all went better and was solved in a smoother way than could have been expected in advance.

The Indonesian team reacted willingly to discuss modifications even though they were reluctant to such alterations. The Indonesian team leader was regarded as particularily competent.

The system of engaging experienced GEs ensured the safer operati of ships in the initial period, which is always the critical sta

Design and choice of technology

The ships must be considered as conventional and, given today's cargo handling environment, they are to some extent superior to older vessels. But taking into account that their unit cargo

aspects are not utilized and that their capital and operational cost is high, they do not compare favourably with older, or second-hand ships, in terms of earning power.

From Indonesia it is stated that the ships, when delivered, were too advanced, but that they now are regarded as very suitable. The vessels are still the newest among all vessels in the inter-island fleet.

The tugs' design, developed by a Norwegian yard, has been well received by all parties. They have a good reputation with users. The only major drawback mentioned is that instead of one propelle they should have been equipped with two.

It appears that the end-results could have been improved by change of technology, but on the other hand it is stated that by owner's representative that ships are well suited and that no serious problems are experienced with maintenance today. Some of the equipment was expensive without improving the quality. Consequently, money could have been saved by a different specification.

Operation and maintenance

After total breakdown one of the ships had to be towed to Singapore to renew the main engine. It has not been clarified whether this was covered by the guarantee clause or paid by the Underwriters. It resulted, however, in months of lost commission days. Lack of proper maintenance was probably an additional reason for technical "off hire". This was because medium speed was too advanced, causing operational problems for engineers not acquainted with this technology. Superintendents report that weaknesses that existed on main engines have been solved by modifications and thus engines are now running to their satisfaction.

From various sources it has been reported that ships have occasic ally been lying idle for long periods due to lack of spares. Part from one ship were said to be used for another. This problem is now solved and according to informants all ships are in operatior

The team visited two cargo-ships and one tugboat during their

stay in Jakarta and Palembang, and the following are abbreviated observations:

Machinery and complicated equipment appear well kept, while work which can easily be done by unskilled personnel had been neglecte Negligence of maintenance seems, however, to be more an administ tive problem and not due to crews' insufficient knowledge as to how to maintain the ship.

Except for initial problems with the main engine of cargo vessels all vessels seem to have operated satisfactorily. The Stork engi installed were of a new type and it appears that more of the troubles were due to weaknesses in the construction of engines.

The Grant program is discussed in Chapter 5. It consists of a great number of activities which are only briefly described in the following. An overview of total expenditure is given in Appendix V. This overview shows that almost 40 percent of the grant has been spent on activities related to the delivery of ships.

Building supervision at the yards was carried out by a team of eight Indonesian superintendents acting as owners' representativ Having only experience of the operation of older ships, they wer assisted by the BvS in their discussions with NWE and the variou yards, and by SRS/FE in supervising and controlling the work at the yards. The team concludes that this part of the grant progra was fruitful in that it transferred know-how in supervising ship building and in improving the quality of vessels.

Transport and sailing of ships to Indonesian ports

The 10 tugboats were transported by heavy-lift ships. The 20 car vessels were all sailed to Jakarta by Indonesian crew. Responsib lity for organizing the sailing including arranging cargo, co-or nating sailing orders and bunkering, was with A/S Karlander act as owners' agent. The team concludes that the NOK 18.6 mill. spe on this part of the programme had no development effect, but sho be regarded as a subsidy of the total building price.

Delivery of spare parts was effectuated after a request by SEACOM had been revised through consultations with NWE and a final agreement reached with NORAD. The team concludes that the amount spent on spare parts has been very useful in increasing ships' commissi days, giving better service to shippers and passengers and in addition improving the company's earning capacity.

Procurement of combined passenger/cargo ship
A large number of ships, some flying Norwegian flags, were offere by Norwegian brokers during 1977-78, but none of them was accepte by the Indonesian government. Finally it was decided to purchase a second-hand Japanese ship to be financed under the Indonesian-World Bank "Second Shipping Project". NORAD was requested to co-finance the remainder of the purchase, the appraisal of the purchase being done by the Bank. Delivery of the vessel took place in 1980 and it was operated by P.T. PELNI until it got lost in January 1981 after a fire causing the tragic loss of hundreds of lives. The team observes that more efforts could have been done to shorten the process of purchasing.

Building of ships in Indonesia was apparently one of the major reasons why the grant was voted in 1976. The 6 ships agreed upon were, however, not built. The reason mentioned by most observers why the building project was cancelled is that it turned out to be too expensive.

However, P.T. PANN signed a contract in December 1975 for 3 ships of 950 DWT each to be built in various yards in Indonesia. These had specifications similar to those ships which were built by NWE. As the three ships were not completed by March 1979, NORAD granted after an urgent request by SEACOM, the amount of NOK 2.1 mill. to complete the building of two of the ships. In observing that there were doubts even at an early stage as to whether new ships could be built in Indonesia or not, the team questions why technical assistance in the form of Norwegian consultants was not considered

Delivery of Pilot Design System to Indonesia's Classification societies (BKI)
Upon request from Indonesia in 1982, NORAD agreed to supply DnV's Pilot System together with a computer for analysis purposes. Pointing to the serious and regrettable delays in the transport

of the computer, the team notes that the introduction of the system will, when implemented this summer, strengthen BKI's supporting services to shipyards and improve its ability to cope with safety aspects for ships and for the offshore industr

Planned maintenance system - SFI Group System

Indonesia has experienced difficulties in undertaking proper maintenance on their ships. Many incidents at sea are reported. In order to help in improving the situation, TSAR, a maintenanc system developed by the Ship Research Institute of Norway (NSFI was chosen for a pilot project. TSAR has at present been introduced on five ships. The final report on the project is expecte this summer.

In order to set up a universal management system to facilitate communication among yards, shipping companies and classificatio societies, SEACOM decided to introduce the SFI Group System in BKI and three yards.

While the pilot project should give useful experience for the future goal of improving technical operation of ships, only a more in-depth practical study as outlined in Appendix VIII may prove the true potential of the system. Also the SFI system could have a wider effect on standardization only after being implemented on a broader scale.

Advisers to P.T. PANN

Since 1977 one financial and one technical adviser have been recruited to P.T. PANN through the International Maritime Organization (IMO). The last Technical Adviser ended his assign ment in 1981, the Financial Adviser in 1982. NORAD took charge of the recruitment during the last year. The team does not find it sufficiently substantiated that qualified Norwegian personne could not be recruited for these positions. The team also would like to emphasize the need for NORAD to work out procedures for recruiting staff to countries where it has no permanent represe tation.

Feasibility Study for a Dockyard Training Centre (DTC) and a Diving School

The study uncovers serious shortages in docking capacity and technical facilities and shows that the situation will worsen still unless steps are taken to train and upgrade dockyard personnel. The report stresses training of operators and foremer and the build-up of a training staff.

The report on the diving school emphasizes the heavy requirement for divers in coastal waters and proposes a school with an annua capacity of thirty students. The proposal has not been followed up as yet, but appears to be given priority in recent plans. The team finds it difficult to evaluate the usefulness of the tw studies carried out under the grant program, but observes that if proposals contained in the reports had been carried out by no this would have meant an improved situation. Priority at present should probably be given to training program in existing schools

Transmigration study

In order to assist Indonesia in implementing its transmigration program, moving people from densely to sparsely populated areas, a study carried out by Shipdeco in 1982 proposed the introductio of Catamarans to take 300 passengers and a small volume of cargo While this solution does not require substantial port developmen and could present certain advantages, the team notes that it doe not solve future requirements for transport of cargo in the regi

Training programs by the Norwegian Shipping Academy

The grant financed a total of 54 seminars and courses, the detai of which are found in Appendix VII. More than 1300 Indonesians are reported to have attended these seminars and courses. The general impression is that they have been by and large successfully carried out and quite favourably reported in Indonesian mass media. Some improvements e.g. in making course material mor relevant to Indonesian problems could, however, have been made. The over-all reception of the lecturers and the course director is good.

Training program organized by SEACOM

During the grant period a series of courses and seminars was organized under the sole responsibility of SEACOM. Two courses specially linked to the shipbuilding program were a 6 months ship repair course and a 3 months shipbuilding/ship-repair course.

Local instructors were used. In other courses such as Planned Maintenance, Fleet Management and Survey for Marine Inspectors a team of Norwegians lectured. Several Indonesian informants stated unsolicited that these courses had improved their personnel's skill. At one yard especially they had made it easier for them to embark upon newbuilding of ships.

Indonesian and Norwegian Authority Project Organization and Performance

The professional responsibility for implementing the Norwegian assistance has lied with NORAD's Programme and Project Department. Day-to-day affairs were handled by the Division for Maritime Transport, Industries and Petroleum (SIO). It seems that this division and its project officers have been delegated a rather independent status in their discussion with Indonesian authorities and in programming assistance.

During the project periods, representatives from SIO made only a few visits to Indonesia. If this was due to limited travel accounts within NORAD, the team much regrets this, feeling that project appraisals on site and program discussions should have been given higher priority. SIO has had only three senior project officers during the whole period and this continuity has contributed to the good results.

According to the agreement, Indonesian Authorities were to be represented by SEACOM. Having only one counterpart had a good effect on building up the relationship. On the Indonesian side as well, a small number of people have been attached to this proje over a long period, thus contributing to a high degree of continu ity and smoother cooperation.

The Norwegian Embassy in Jakarta has by and large been kept up to date with the program, but has not been heavily involved in the project.

Regular meetings have not been organized, and , wise after the event, one might say that annual meetings ought to have taken place, with interchange of status reports and meeting programs.

Assessment of Consultants

Whenever practicable, Tendering Regulations were used by NORAD, and SEACOM appointed or approved Indonesian counterpart consultants. On some occasions this did not materialize. The team regrets this, seeing the advantage of having local professionals participate.

That Indonesia was satified with the Norwegian consultants is proved by their recommendation that the same companies continue or renew their contracts.

It should be emphasized that, Indonesia being an unknown country for most of the consultants, teething problems are always to be expected in the initial period. By now there is a number of consultants who know Indonesia and its maritime environment. These could be used for future engagements.

By and large, the team considers that consultants have performed well and that competent personnel were put on the various jobs designated.

Plans and budgets

NORAD was not given much time to plan the program or to study the various components of its content. Due to this, a time schedule for expenditures would therefore have been very uncertain. The grant of NOK 70 mill. was tentatively allocated, with payment of NOK 25 mill. during 1976 and the remaining NOK 45 mill. in 1977. This was indeed very optimistic and during the whole period a series of delays was encountered, whereby the Cash Flow Budget had to be re-scheduled.

It was expected at the outset that the project could be finished

in two years, but this now looks more like nine years. There are several reasons for the delay, the main ones being:

- Planning the procurement of a second-hand ship started in 1977, but took place only in May 1981.

- Ships were never built in Indonesia.

The allocation of funds for these activities has, no doubt, tied the grant money which could otherwise have been re-allocated at an earlier date.

By and large plans and budgets have been adhered to, but considerable delays in execution have been experienced.

Chapter 6 "General Conclusions and future Cooperation" draws the conclusion that the 1976 Indonesian-Norwegian Agreement has by and large led to successful results and that the overall development impact of the program has been positive. This also goes if the grant program is considered on its own merits.

The ships delivered from Norway to Indonesia under the 1976 Agreement appear to have had a manifold development impact. The development impact of the ships would no doubt have been even greai if they had operated within an economically more responsive framework. As it turned out they have had to compete with very old and written-off vessels with minimal overheads. The ships' design has its strong points in terms of versatility. Changes in design were to be preferred in many respects. The ships' operation was improv through the techical assistance offered form Norway.

A total of NOK 18.6 mill. was spent on conveyance of ships, bunker and on freight charges for tugs. The team concludes that this had no development effect, but should be regarded as a kind of subsidary of the total building price.

As for the rest of the technical aid package the concentration on maritime training and education fits well with Indonesia's needs. The courses and seminars held have been very well rated by all informants almost without exception. It seems equally clear that

teaching, in a future Indonesian-Norwegian cooperation setting, should use seminars to a limited extent. Maritime training in Indonesia with assistance from Norway should moverather in the direction of longer courses, "training of trainers" and on-the-job-training. Educational aids should be adapted to Indonesian needs.

As regards the Indonesian-Norwegian project, it is the opinion of the team that it has satisfactorily met most of the main Norwegian criteria for development assistance.

Indonesia is no longer among the poorest developing countries. But as a Lower-Middle income country the dimensions of poverty in Indonesia, although declining, remain overwhelming for the majority in traditional agriculture and on the thousands of inaccessible islands. It is hard to imagine many developing countries with greater dependence on maritime services and thus maritime assistance, than Indonesia. Norway, on the other hand, is specially qualified to give technical assistance in the field of sea transport

In a more general North-South perspecitve, Norway has demonstrated that increased cooperation in the shipping sector between developing and industrial countries is a development which Norwegian shipping should be well-equipped to meet. Norway ought to respond to Indonesia's request for further technical assistance in a favourable way.

With the above in mind, the evaluation team indicates the following activities as worthy of further study for inclusion in the coming cooperation packages:

* continuation of shipping seminars

* increased emphasis on training Indonesian personnel with a view gradually to build up an autonomies Indonesian competence in maritime teaching

* training should be concentrated on middle management and not to the exclusion of the private sector

* training sectors of particular importance may be those of maritime safety, management, and shipyards

* training ought to be conducted as far as possible in conjunction with the place of work of trainees

* strengthening of existing institutions of maritime education in Indonesia such as the Maritime Academy in Jakarta

* the carrying out of a study to support the Indonesian authorities to establish a Plan of Action for the practical steps to be taken in the maritime sector.

The team indicates a program of future assistance divided in two priority classes, with a total financial frame of NOK 31 mill. within a four year period. See Cash Flow Chart page 111.

The team's attention has further been drawn to a number of development cooperation activities which seem worthy of further studies by Norway but which the team neither has felt competent to recommend nor had the time to assess properly.

In addition to development cooperation, the future programme should take due consideration of the general intercourse between Indonesia and Norway, particularly in the shipping sector including Norway's general policy in shipping matters. In that respect the Indonesian-Norwegian working group of officials to be established in the near future seems an apt forum for exchanging views of common interests. The Ministry of Development Cooperation should naturally participate in the group.

In order to keep abreast with maritime and development efforts in Indonesia, Norway ought to consider whether the present observer-status in the IGGI be changed into membership.

To ensure administrative coherence, one ought to ensure proper project guidance both in NORAD and Indonesia in an optimal way. If needed and if financially possible one should consider

whether a project officer in Jakarta, attached to the Norwegian Embassy, be appointed for a trial period of two or three years to start.

In order to ensure continuity between the 1976 grant program soon at end and the future program, efforts ought to be made to bridge the gap by flexible means of financing.

INTRODUCTION

In connection with a request forwarded by Indonesia to Norway for further assistance in training, the Norwegian Ministry of Development Cooperation appointed a project evaluation with the view to evaluating the results of the 1976 Indonesian-Norwegian development cooperation agreement and assessing further assistance. The mandate of the evaluation team is given in the terms of reference reproduced in Appendix I.

In connection with a delivery on concessional terms of 20 vessels for coastal transport and 10 tugboats to Indonesia from Norwegian yards, NOK 70 million was granted from the Norwegian Government under an agreement signed on 14 May 1976. Administrative responsibility for the implementation of the grant was commisioned to the Directorate General of Sea Communication (SEACOM) on the Indonesian part, and to the Norwegian Agency for International Development (NORAD) on behalf of Norway.

By 1980, when all the ships had been delivered, approximately NOK 56.4 million of the grant had been spent on the following activities:

a. building supervision at the yards, trial tests, etc,
b. transport and delivery of ships to Indonesian ports,
c. co-financing with the World Bank of a second-hand passenger/ cargo ship,
d. delivery of spare parts,
e. maritime training and technical assistance related to inter-island fleet development in Indonesia,
f. technical assistance to the Classification Institute of Indonesia (BKI) and to the National Fleet Development Corporation P.T. Pann,
g. feasibility study on a dockyard training centre and a commercial diving school.

According to the original programme, Norwegian credits were avail-

able for a related building programme at Indonesian yards. Indonesia did not make use of these funds. The remaining part of the grant (NOK 13.6 million) was re-scheduled by SEACOM and NORAD in 1981 and again in 1982, for the following activities:

a. training courses in Indonesia implemented by the Norwegian Shipping Academy,
b. training course administered by SEACOM,
c. maintenance systems for shipping companies and ships,
d. introduction of planning systems for yards,
e. realization of a transmigration transport study,
f. delivery of the Veritas pilot design/control system to BKI,
g. Indonesian delegations abroad.

For 1984 and 1985, NOK 3.5 million is still available, mainly intended for the financing of economic and technical experts to PT PANN and to complete maintenance systems of shipping companies and ships.

The evaluation team was composed as follows:

Terje Hveberg, MSc., Naval Architect and Marine Engineer, Head of Division Norwegian Maritime Directorate.

Leif Hald, Captain, Shipping Operation Services.

Svein Aass, Social Scientist, Royal Norwegian Ministry of Foreign Affairs, p.t. Norwegian Delegation to the OECD, Paris.

Helge Hveem, Political Scientist, Associate Professor, University of Oslo.

The members of the evaluation team were appointed in an individual capacity. The team was independent.

The evaluation team was assisted by two resource persons:
- Lasse Nymoen, Senior Project Coordinator, Norwegian Agency for Development Cooperation (NORAD).

- Geir Moe Sørensen, Head of Division, Royal Norwegian Ministry

for Trade and Shipping.

Prior to the start of the field work in Indonesia, collection of information in Norway was done through document studies and interviews. In Indonesia the team visited major project sites, reviewed the various activities of the project and interviewed key persons related to the project and who have relevant information of interest to the evaluation. The evaluation was carried out in close collaboration with Indonesian authorities and the Norwegian Embassy in Indonesia.

Following preparatory activities in Norway, evaluation work in Indonesia took place from March 19th to April 10th, 1984.

While in Indonesia the evaluation team interviewed a number of persons in the central relevant institutions as well as conducting observations of vessels, both general cargo vessels and a tug boat in Jakarta and in Palembang. In all, during its stay in Indonesia the team saw vessels, the capital, the periphery and the countryside. The team thus visited Jakarta, Java including Surabaya, Sumatra including Palembang, Timor including Kupang, and Bali. In addition to studying the maritime sector and life in the maritime sector in Indonesia the team made efforts to get a glimpse of ordinary life in the countryside both in Bali and in Java, the countryside after all being the home of the overwhelming part of the Indonesian population.

Documents used by the team in their work as well as persons and institutions contacted are listed in Appendix II and Appendix III.

It should be underlined that due to the enormous volumes of studies and reports undertaken for the Maritime Sector much time was spent on tracing and studying these. The status of some were also not easy to establish. This had however, to be done in order to find areas where possible Norwegian assistance could be incorporated according to Indonesia's plans.

The present report consists of the Main part and a separate

volume of Appendices. The team has felt it necessary to make a rather lengthy report for several reasons. Firstly, the report is an evaluation of a large number of projects under the grant program, and at the same time an evaluation of the commercial agreement regarding the building and delivery of the ships. Secondly, the team attempts to comply with the request to survey a whole sector of the economy of a country largely new to Norwegian authorities. Thirdly, the team has met the request for doing a survey and an evaluation of the decision-making process leading up to the grant - an innovation in the practice of evaluation. Finally, the report attempts to go into some depth in discussing the reasons behind the areas and projects of future assistance which the team is indicating.

1. HOW THE PROJECT CAME ABOUT

The evaluation team has conducted a relatively detailed study of the process leading up the 1976 Indonesian-Norwegian agreement. The decision-making process in its main elements is described below.

A Memorandum of Understanding was signed on 23rd February 1976. The Memorandum refers to:

- a Financial Agreement between the Government of Indonesia and Eksportfinans (Norway)
- contracts between PT PANN (Indonesia) and North West Engineering (Norway) for the construction of ships
- contract between the Directorate General of Sea Communications (Indonesia) and North West Engineering (Norway) for the construction of tug-boats.

An exchange of letters took place between representatives of Norway and Indonesia on the 23rd of February 1976. The letter states that "the Government of the Kingdom of Norway is prepared, subject to Parliamentary appropriations, to make available to the Government of the Republic of Indonesia a grant not exceeding NOK 70 mill. to be used exclusively for the financing of components of the inter-island shipping project, such as costs in connection with the delivery of ships to be built in Norway, supervision and inspection of ships in Norway, the purchase of one second-hand passenger vessel, various technical expertise, comprising the Classification Institute of Indonesia (BKI), the State Development Bank (Bapindo), the elaboration of safety rules and tuition and other projects as may be mutually agreed upon by both Governments".

On the 6th of April 1976 the Norwegian Parliament made available development assistance funds and authorized the Government to conclude an agreement with Indonesia.

The Agreement between the Government of the Kingdom of Norway and the Government of Indonesia regarding cooperation with regard to the inter-island fleet development programme of Indonesia, was signed on the 14th of May, 1976.

As for the details of the above mentioned official agreement, reference is made to Appendix IV.

1.1 THE ORIGIN OF THE PROJECT

The project originated in the World Bank's Second Shipping Project of Indonesia. The purpose of the projects was to assist the country's economic development by reducing the cost and improving the reliability of internal shipping. This was to be achieved through rehabilitation of 119 vessels and scrapping of some of the oldest ships and procurement of new tonnage. The project included technical assistance for shipyards, shipping companies, the ship classification bureau and BAPINDO, the Indonesian development bank, which was to be the principal executing agency. The World Bank also extended assistance to training and marine safety.

The World Bank did the project appraisal and extended loans to all parts of the program except the acquisition of tonnage. This was done because sufficient funds from other and bilateral sources were felt to be avialable for acquisition of new tonnage.

The pre-condition was for co-financing with the World Bank. The project, however, eventually became a bilateral project where Indonesia emphasized that the winning offer would be the one that could provide the best total development project as concerns price, quality, technology transfer, financing and development assistance.

The Indonesian Government insisted on international bidding, then agreed to restricted bidding, and finally, after offers of a sufficient amount of development assistance from Norway, accepted the Norwegian offer represented by North West Engineering (NWE). In this way the Norwegian offer appears to have

fully qualified as tied-aid credits according to the rules of the OECD. NWE's offer was accepted on the Norwegian side only after an appraisal conducted by the expert consultancy firm, Shipping Research Services (SRS) of specifications and prices. Strict comparison with international prices was, however, not possible.

The World Bank's concern in general is to see to it that the recipient gets the best possible price and quality. Financial conditions as outlined by the World Bank and finally fulfilled by Norway were about identical.

All informants are in agreement that the Indonesians were very hard negotiators and to some extent played on the possibility of giving the contract to the Netherlands or other countries. The fact that the project finally went to Norway might perhaps also be seen as an Indonesian attempt to diversify her (trading and) development assistance partners. Thus the Dutch were said to have offered excellent conditions of financing as well as having conducted the feasibility study for the vessels to be used. A crucial factor for the contract to have been accorded to NWE might also have been the latter's offer of technology transfer by building some vessels locally in Indonesia.

Financial experts all became impressed by the punctual and conscientious manner in which Indonesia reimburses the credits, particularly as it happened in the aftermath of the financial difficulties of the Indonesian State Oil Company (Pertamina).

1.2 DECISION-MAKING IN NORWAY

The project was first brought to the attention of Norwegian authorities by the Embassy in Jakarta as part of its regular reporting in November 1974. The latter came to see it as a genuine development project worthy of attention. Parallel to this, contacts were established between Norwegian interested parties and the World Bank. In the spring of 1975 Norwegian shipyards were informed about the project through Norwegian bankers visiting Jakarta and by the Embassy in Jakarta.

In order to meet the one point in the programme which envisaged construction of the new ships, several Norwegian yards were contacted. Apparently, only NWE eventually retained interest. The latter made business visits to Jakarta in the summer of 1975 in order to familiarize itself with the project. It also invited an Indonesian team to Norway to get acquainted with the world of Norwegian shipyards.

The relevant Norwegian authorities took an active interest in the project and the handling of it. The decision, including whether development assistance was to be comprised in the total package, was made by an inter-ministerial group set up in August 1975. Represented in the group were the Ministries of Foreign Affairs, Finance, Trade and Shipping, and Industry as well as the Norwegian Agency for International Development (NORAD), Export Finance and the interested bankers and businessmen.

Those politically responsible for Norwegian development assistance were in favour of assigning aid to the project. Major motives were:

- this type of project was a good example of development assistance and technology transfer.

- the shipbuilding contract was a healthy one from the point of view of both Indonesia and Norway.

- aid was needed to obtain the contract.

In addition, it appears that a major motive behind the decision was that the Norwegian shipyard sector was in difficulty and could benefit from the project. The associations of shipyards and iron and steel workers were actively lobbying in favour of the total package.

The arguments just listed were also prominent in the approval by Parliament on the 6th of April 1976. In addition the Parliamentary majority stressed the basic-needs nature of inter-

island transport in Indonesia and confirmed that the principles of geographical concentration and untied aid were not fully applicable to technical assistance and non-main partner countries. This applies in sectors where Norway is specially qualified to give technical assistance, particularly in the fields of sea transport. By its vote Parliament can be said to have provided an answer to the debate that took place around the issue of untied aid, one of the general principles of Norwegian development assistance. Untying of aid was confirmed to be still the general principle, but the principle did not exclude exceptions, particularly in relation to technical assistance, maritime assistance and non-main partner countries.

In the case of the 1976 Indonesia project the procedure was to some extent the reverse of the procedure that is normally followed when appropriations for development assistance on a Government-to-Government grant basis are extended by Norwegian authorities. This appears to be particularly true with regard to NORAD's role. The Agency was gradually involved in the decision making process. Several informants in NORAD point out that they had very little opportunity to influence the decision. On the other hand it may be said that once NORAD was involved in the project through the grant element of the package, the agency only partially and, it would seem, reluctantly developed a policy regarding the project and its own role in it. This, in turn, is said to have been made more difficult because Indonesia was not a main-partner country and because the Indonesians quite naturally regarded the grant as "their" money.

Finally, it may be observed that the procedure chosen is not all that extraordinary if one keeps in mind that until the very last stages the project was treated as co-financing/parallel financing with the World Bank. In such cases the appraisal by the World Bank is normally accepted by Norwegian authorities. Initiation of projects in these cases too has most often come from sources outside NORAD/the Ministry of Foreign Affairs.

2. RELEVANCE OF PROJECT ASSISTANCE

2.1 INDONESIA'S DEVELOPMENT POLICIES

2.1.1 General Overview

The 13.000 islands comprising the Republic of Indonesia sustain the fifth most populous country in the world. Whilst the number of inhabitants was 30 million in 1930 and 124 million in 1971, today's population numbers approximately 160 million.
Java supports over 64% of the population but accounts for only 7% of the land area.

Income per capita was US $ 530 in 1981 and Indonesia has thus joined the ranks of lower-middle income countries such as Kenya, Zambia and Nicaragua. Real disposable income is far less since the State sector part of export earnings is so predominant (70% of State income comes from oil) and since the work force employed in traditional agriculture is still around 60%. On the other hand Indonesia comes out well in comparative income distribution; according to available statistics it is more egalitarian than for instance Kenya and Tanzania.

Rapid changes have taken place in the productive structure in Indonesia with respect to the relative shares in GDP of agriculture and industry. Taking the years 1960 and 1981, the share of agriculture changed from 50% to 24% and that of industry from 25% to 42%.

Indonesia is a unitary ~~and secular~~ republic with presidential rule. After the change of government in 1965, the military initially played a dominant role. While still performing important functions, government has become increasingly civilian. The cabinet is responsible to the President. The main constitutional bodies are the President (Head of State and leader of

the executive power), the Popular Consultative Assembly (sanctioning constitutional changes and electing the President), the National Assembly (last elected general election in 1982), the Supreme Court, the High Council (advising the President in matters of national importance) and the High State Audit (controlling public finances). A multi-party system with the main political parties has gradually developed in later years. The national assembly is partly elected through popular elections and from various functional groups and partly appointed by the Government (100 out of 460). Changes in the governing party, Golkar, may open up new channels of popular influence and as far as civilian rights are concerned the development according to Amnesty International has been in the direction of improvement. However, as in most developing countries the future situation may see set-backs in this area. There is still some censorship of the foreign press but discussion in the domestic press is vivid and pertains to the most diverse issues.

Indonesia consists of 27 provinces. Each province is headed by a governor. Each province is divided into several counties or districts which are further divided into a great number of municipalities. Municipalities are subdivided into communes and villages.

2.1.2 The Development Plan

In 1969, at the start of Indonesia's First Five Year Plan, the per capita income of the Indonesian population was probably no higher than it was half a century ago. A majority of the population lived below a minimum welfare standard, especially on Java. Most were exclusively or primarily dependent on agriculture, where farms were generally very small, though highly intensively cultivated. There were very limited employment opportunities outside agriculture and the result was widespread under employment everywhere. While the inflation of the mid-1960's had been overcome, the infrastructure was still in a very poor condition.

Since the new government assumed power in 1966, economic achieve-

ments have been substantial with real GDP growth averaging approximately 8% a year. Despite such an encouraging performance, latest available estimates indicate that in 1976 the per capita consumption of 50 million people was less than US$ 90 a year. The dimensions of poverty in Indonesia, although declining, remain overwhelming. Trilogi Pembangunan, the Development Trilogy, is the guiding principle for Indonesia's development strategy. The three goals - equity, growth and national stability - are to be pursued by a variety of means, the most important of which is the generation and diffusion of job opportunities.

A reason for optimism lies in the continuing strong performance of the agricultural sector. Economic growth in the 1970's was definitely not limited to the modern sector. A large proportion of total funds was used for investments in agriculture, small-scale enterprises and rural development in a broad sense.

This development has not been limited to the improvement and extension of technical irrigation systems. It expresses itself in higher rice yields but also in better quality houses, more roads that are better maintained, stronger bridges, rural electrification, water supply schemes, schools, markets, sport-fields.

2.1.3 Growth with equity?

The World Bank Consortium for Indonesia, the Inter-Governmental Group on Indonesia (IGGI) has endorsed the Indonesian Government's social policy which gives high priority to education, training and human resource development throughout the 1980's.

In recent years the Government has embarked upon a massive expansion in its social development program apparently with good results. For example, impressive gains have been made in expanding access to education. The Government's objective of universal primary education has virtually been achieved. This compares with the situation in 1971 when only 65% of primary age children were attending school.

Increased access to education has also been an important factor

in achieving good progress in health.

The rate of infant mortality fell from 140 per thousand to 105 per thousand during the 1970's. The health situation today is almost unrecognisable in comparison to that of 20 years ago. At that time, smallpox, plague, and cholera were endemic and malaria, yaws, tuberculosis and diarrhoeal diseases were widespread. The provision of health care facilities has improved dramatically, with particular emphasis on the achievement of wide coverage of basic health services in both rural and urban areas.

Efforts in family planning have also been successful. During the 1970's the birth rate fell much more rapidly than in most low- and middle-income countries and now over a third of all married women in the child-bearing age use modern contraceptive techniques. According to the UN the Indonesian family planning program is perhaps the most successful in the Third World. From primarily family planning the program has since the late 1970's gradually branched out to embrace mother and child care and nutrition.

Consequently, the nutritional status of the population has also improved. The average annual growth in rice production of 4.5% in the 1970's was well over the 2.3% population growth. Total food output rose 50% from 1970 to 1980 - equivalent to a per capita gain of 19%.

The position and role of women are vital to the development of any society. This is recognized by the Government. The team observed very few women in leading positions. On the other hand Indonesian women, it appears, share to a large degree in social and economic progress. In fact, the role of women in Indonesia is regarded by many experts as unusually strong even compared with the situation in many developed countries. Equality between the sexes has been shown by studies to exist to a very considerable extent in education, marital affairs including the right to divorce, sexual relations, inheritance rights including landholding and child-rearing. According to available information, however, they still seem to lag behind in literacy. This is

probably due to a large degree to the impact of older women on the statistics; statistics regarding university attendance shows a remarkable equality in ratios between men and women in the younger age groups.

Despite all this progress in the social sectors, it is quite clear that poverty is still widespread and that the coverage and quality of social services remain highly inadequate. In the health sector, the majority of infants still receive no modern health care and the ratio of doctors to population is less than one-third of the average in South and South-East Asian countries. Despite sufficient average food availability, about 15% - or over 20 million people - still appear to receive insufficient food. Safe drinking water is available for only about 10 per cent of the population. The inflation rate recorded last year was about 13 per cent, which is not high compared with a large number of other developing countries.

There are quite naturally sources of potential economic and social instability. As in most developing countries great social inequalities persist in the process of rapid modernization. Not surprisingly, modernization itself has created new contradictions which might bring about abrupt political changes. For instance, one estimate puts the outstanding rural credit at a total of 144 billion rupiah and half of this appears to be in arrears. New, soft credit seems vital if the goal of food self-sufficiency is to be met and farmers come through the difficulties created by the drought affecting rice production. It is therefore quite reassuring to know that the Government in the five-year plan just started has no intention of reducing the massive inputs into agriculture as well as to education. The policy of self sufficiency in food production is paralleled to some extent in other sectors of the economy, such as steel production. Self sufficiency does appear to be a general aim of priority to the Indonesian Government.

A major factor behind agricultural growth has been the introduction of the "green revolution" in the early 1970's, i.e. better and hybrid seeds, increased use of fertilizers, extension services and rural credit as well as mechanization.

Increased yields and higher productivity have also entailed the creation of relatively surplus labour. Attempt have been made to remedy this through government sponsored rural intensification programs and off-farm employment. Few studies are available on the present employment situation in the countryside, but a recent report by the well-respected Agro-Economic Survey concludes that increased availability of off-farm employment, and a greatly improved rural transport system, have begun to cause labour shortages, at least temporarily, in some densely populated areas. Not only did rural development accelerate during 1979-81, but poor people were also able to participate in the advance, after having seen their incomes reduced until mid-1970's.

2.1.4 Ecological and labour questions

A ministry for environment was set up a few years ago. Forest fires, depletion of fish resources in certain waters and also the gradual depletion of petroleum resources have caused concern. An ecologically more sound development policy appears to be an official goal for the coming years and it is thus significant that the Minister for Environment has been given quite extensive powers and has been elevated to the rank of coordinating minister, i.e. having the powers to coordinate several ministries whose policies are relevant to ecological concerns.

The Government has introduced a minimum salary for the Jakarta region which amounts to 1.045 rupians per day, approximately NOK 8,60. One estimate shows that 75 US $ per year is the minimum for one person to exist in Indonesia. The evaluation team itself found that the lowest salaries (second class welders and apprentices) at Indonesian shipyards were from 45.000 to 70.000 rupiahs per month. The lower range would appear sufficient to support a family. However, the team does not have sufficient empirical data to judge whether salaries observed are representative. According to the Indonesian Worker's Federation the minimum wage is insufficient to support basic needs for the typical Jakarta worker and far from sufficient to support a family of average size. Other studies reported in the Indonesian

press point to similar conclusions. Labour is partly organized. Strikes are not prohibited by law but labour leaders are to a large extent approved by the Government. Labour strife, on the other hand, is tolerated and strikes are very numerous.

2.1.5 Future Outlook

From the stagnation and chaos which characterized the mid-1960's the GDP has grown at an average rate of about 8 per annum: a rate exceeded by no other low-income country.
Why is it so important that a high rate of economic growth be maintained and a policy of equitable distribution be pursued? Part of the answer can be found in the results of the 1980 census, which show a population 5-7 million more than had earlier been expected. At the same time during the first years of the 1980's Indonesia's growth slowed due to the international recession although the slow-down was less than in most other countries.

Continued rapid economic growth of about 7-8% a year is probably essential if Indonesia is to have any hope of productivity absorbing the 19 million new entrants into the labour market during the 1980's. The abovementioned programs must continue to play an important role. Perhaps the most important contribution that the Government can make to employment creation is by promoting a general upgrading in the quality of labour.

The deterioration in the international economic environment has led to a sharp change in Indonesia's external financial prospects for the near-term at least.

In the view of the World Bank, the Government of Indonesia deserves to be congratulated for the political courage and foresight that is reflected in the series of measures it took during 1983. These include, inter alia, a drastic reduction in the domestic subsidy on fertilizer and petroleum products; a genuinely austere budget for 1983/84; a substantial devaluation of the currency; a rephasing or reduction in scale of many new projec with a high import content; and, most recently, significant interest rate and financial policy reforms including tax reforms. Meanwhile, the Government's continued commitment to development

is reflected in the fact that cuts in spending for food production, education and other human resource development programs were relatively minor.

A continued process of institutional and policy adjustment will be required if Indonesia is to sustain its impressive development momentum through the decade: human resource development; export diversification and domestic resource mobilization; and expansion of opportunities for the private sector development.

In the new five year plan for the period 1984-1989, Repelita IV, inaugurated 1st of April last, the Indonesian Government has taken a lesson from past experience and the world-wide recession. A yearly growth rate of 5% is foreseen. Growth will come primarily from labour intensive industrial growth including export-orientated light-scale manufacturing. Public investments will be reduced, but will continue at an intensified rate in the social sectors such as education, health, employment creation and rural development.

The importance of the technical assistance that is embodied in official aid flows is stressed by the World Bank. The training components of many of these projects and programs are extremely important for Indonesia's development.

Having regard to the aspects of Indonesia's development policies described above and with a view to the main criteria for the selection of partner countries for Norwegian development assistance, it seems fair to conclude that the Indonesian authorities are pursuing a development-orientated policy and a policy of social justice. Compared with a number of other developing countries the process of development in Indonesia appears socially sound.

2.2 RELEVANCE AND IMPORTANCE OF INTER-ISLAND SEA TRANSPORT

2.2.1 Introduction

Communications generally are lifelines in the Indonesian archipelago. Air-line companies already service Indonesia in an impressive fashion. Satellites bring news and images all over the country.

The relevance and importance of inter-island sea transport is seen in the fact that Indonesia is a maritime nation. The country consists of 13,000 islands and stretches over a distance equalling 1/8th of the earth, measured at the equator. Population is approximately 160 millions. Most inhabitants live in Java. Both politically and from the point of view of economic growth people in the archipelago have to be reached. Maritime transport/inter-island shipping is basic to bring about the marketing of products by poor peasants all over the country. In addition the Governwent, in order to realize its social sector priorities, will have to bring equipment and people to hospitals, schools, etc. Transmigration, i.e. bringing surplus population from overpopulated Java to the outer islands, is inconceiveable without efficient maritime transport, and the situation is hopeless without transmigration.

2.2.2 Maritime transport: A lifeline in the development process.

The geographical position of Indonesia imposes overwhelming dependency on the sea for its trade and commerce regionally, nationally and internationally.

For its people, the exchange of goods and services is a vital lifeline for development and progress of the country.

The functioning of Indonesia's sea transportation system is fully dependent on the people engaged in the maritime sector. Motivation, ability and skill of the labour force is now imperative to meet the rapidly changing forces in society such as economics, technological status and the social trend of the nation.

Training and education of personnel attached to the maritime sector has become an important factor recognized by the Government and the Maritime Industry. For the time being, the maritime training facilities are lacking both in numbers and in quality. Indonesia is therefore still dependent on the transfer of technology and know-how from advanced shipping nations.

Hardly a week goes by without the Indonesian press reporting a maritime mishap somewhere in the country. One reason for the high number - at least 45 vessels of various sizes were reported to have sunk or broken down at sea in 1981 - is the fact that the archipelago is served by such a large and scattered commercial fleet. Storms play a part too, though proximity to the equator means more fair weather than fould. Many accidents occur, say shipping industry observers, because of poor maintenance and shipboard equipment, incompetent crews and port officials.

Indonesia consists of thousands of islands spread all over the Indonesian waters, creating the need for seaborne transport to be able to exchange the local products of the many islands, with the following favourable effects:

- through such exchange local shortages and surpluses as well as the resulting differences in market prices can be reduced or abolished;

- a good system of inter-island shipping is also capable of develop inter-island trade to such an extent that imports from abroad can be reduced and foreign currency saved;

- a good system of inter-island shipping is capable of reducing seaborne costs, which would have favourable effects on market prices, consumption and production, creating a balanced spread of production development and its results.

A well developed seaborne transportation system reduces seafreights to a great extent, which greatly facilitates or improves the marketing of Indonesian export commodities.

In order to provide a picture of the seaborne trade to and from Indonesia the following figures are presented for the year 1981:

	million tons dry cargoes	million tons liquid cargoes +)
Domestic trade	30,2	39,7
International trade	28,4	82,6
T o t a l	58,6	122,3

+) oil and oil products

In relation to the total Indonesian population of nearly 150 million people, however, the transport intensity per capita is still low, compared with more developed nations (Western Germany 4 tons per capita, France 5 tons per capita).

National Fleet capacity in 1981 in relation to domestic trade:

	Number	Deadweight tons
Regular liner fleet	361	425,428
Local Fleet (up to 175 GRT)	1090	161,476
Sailing (motorized) fleet	3346	179,032
Pioneer vessels	35	23,179
Port assisting fleet (tugs, pilotage)	636	96,828
Special vessels, carrying homogeneous bulk	2310	1,979,169
T o t a l	7776	2,865,112

Only 2,8% of total domestic trade was carried by the foreign flag, indicating the high extent of self-sustenance. It should be borne in mind, however, that the domestic fleet is predominantly worn out and/or obsolete. Large scale replacements and renewals will have to take place in the next few years to come.

2.2.3 Ports

Ports can be divided into dependent ports, self-supporting ports, autonomous ports and special ports.

Port regulations and port rates are prescribed by the Central Government.

The actual loading/discharge of seaborne vessels as well as all cargo handling in port, is left to private enterprise (terminal operations), unless certain activities are deemed to be better executed by the Central Government in what are termed unit terminals.

It is difficult to express the total capacity of Indonesian ports in one single figure, since the waterdepth in front of the quays vary greatly, whereas deepsea godowns from port to port have various floor capacities.

The many hundreds of ports spread over the Indonesian Archipelago have - at best - been upgraded in only a limited sense.

Cargo handling methods are still labour-intensive. The limited port capacities necessitate prolonged working times and round-the-clock-working is regular in busy ports such as Tanjung Priok, Perak and Belawan.

2.2.4 Maritime Industry

The Indonesian shipbuilding and repair industry has hardly been able to develop into a maritime industry of importance. Recent figures show that the actual shipbuilding production of vessels in excess of 500 DWT - amounts to only 34,550 DWT per annum.

The Indonesian shipbuilding industry is only capable of the construction of seagoing vessels of 8,000 DWT at most. The largest seagoing vessels ever built on an Indonesian bed measured only 3,500 DWT.

The above shows that Indonesian shipowners are forced to order for new vessels abroad, thereby placing a heavy burden on the nation's foreign currencies.

2.2.5 Main impediments in inter-island communications

Five factors showing deficiencies should be mentioned:

1. regularity and reliability leave much to be desired;

2. frequent deviations from official routes to the detriment of shippers and consignees in neglected ports;

3. exclusion of smaller ports from regular services, sometimes forcing shippers to charter space on regular liner vessels or local authorities to order vessels for port calls to get important shipments carried out;

4. insufficient damage/pilferage prevention, which encourages direct shipments, resulting in deviations from the official sailing schemes and the exclusion of ports-of-call mentioned therein;

5. the absence of transhipment forces the trader to buy at local markets and arrange direct shipments to the consuming centres either by RLS based on separate negotiations or by motorized sailing vessels.

2.2.6 The structure of the Inter-island Liner System

The new structure of the Inter-island Liner System has at last been shaped. A regular, reliable and comprehensive network of inter-island sailings will be established with the least possible transhipment from one route to the other. In principle 38 routes

have been assessed to ensure the optimal sea transport of the 6,95 million tons of expected inter-island flows in 1988, requiring only 0,22 million tons to be transhipped from one route to an other.

3. INTER-ISLAND TRANSPORT SECTOR

3.1 NATIONAL PLANS FOR THE DEVELOPMENT OF THE INTER-ISLAND TRANSPORT SECTOR

3.1.1 Background

The Indonesian Government's social and nation-building objective of providing transport services to all regions and population groups throughout the archipelago places a heavy strain on the maritime system. During the 1970's Indonesia's maritime transport system developed rapidly. But the capacity of Indonesia's ports and shipping industry is still far from adequate to deal efficiently with the rapidly increasing demand for sea transport in the light of the country's high economic growth rate and changes in domestic and foreign trade patterns. It may be expected that today's limitations of the maritime transport system will increasingly impede the development of domestic and foreign trade - and badly-needed foreign exchange - if correction measures do not work.

Most findings and recommendations point to the fact that existing maritime infrastructure and shipping industry are not utilized to their full potential.
A considerable part of observed problems in the maritime sector is due to existing procedures and arrangements in sector organization and management. An action program has been formulated to achieve a complete reorganization of the maritime transport sector by 1988.
Reorganization implies the establishment of a new port hierarchy, restructuring of shipping routes, reforms in shipping industry regulation, and improvements in port management and operations. Of special importance will be a program aimed at improving the performance of domestic shipping companies including actions to overcome the problem of excess tonnage

through scrapping and incentives. Substantial funds are planned to be allocated for the financing of training programs and marine safety.

3.1.2 The Maritime Sector Development Program (MSDP)

In order to achieve a complete reorganization of the maritime transport sector, the Indonesian Government has worked out a Maritime Sector Development Program (MSDP) in cooperation with the World Bank. The adjustments have to be gradual to avoid undesirable distortions in the maritime sector. For this reason a phased six-year reform program scheduled to coincide with the fourth 5-Year Development Plan, Repelita IV (1984-85) has been elaborated, setting out annual achievement targets. The Indonesian Government has taken several steps to establish the required institutional, procedural and staffing arrangements for the preparation and implementation of the MSDP. There can be no doubt the Indonesian authorities attach the highest priority and importance to the program. The lead agency for preparing and implementing the action program is the Directorat General of Sea Communications (PERLA) of the Ministry of Communications. Program preparation and implementation will be guide by a Steering Committee under the chairmanship of the Secretary General of the Ministry of Communications. The Indonesian Gover ment has asked the World Bank to act as lead development agency in assisting in program formulation, preparation and later implementation.

The Maritime Sector Development Program consists of fourteen individual components:

MARITIME SECTOR DEVELOPMENT PROGRAM

Overview

I. Inter-Island Liner System
II. Super Crash Program (Ports)
III. Port Planning + Engineering
    1. Consultants
    2. Self-Management
IV. Ship Repair and Maintenance Improvement

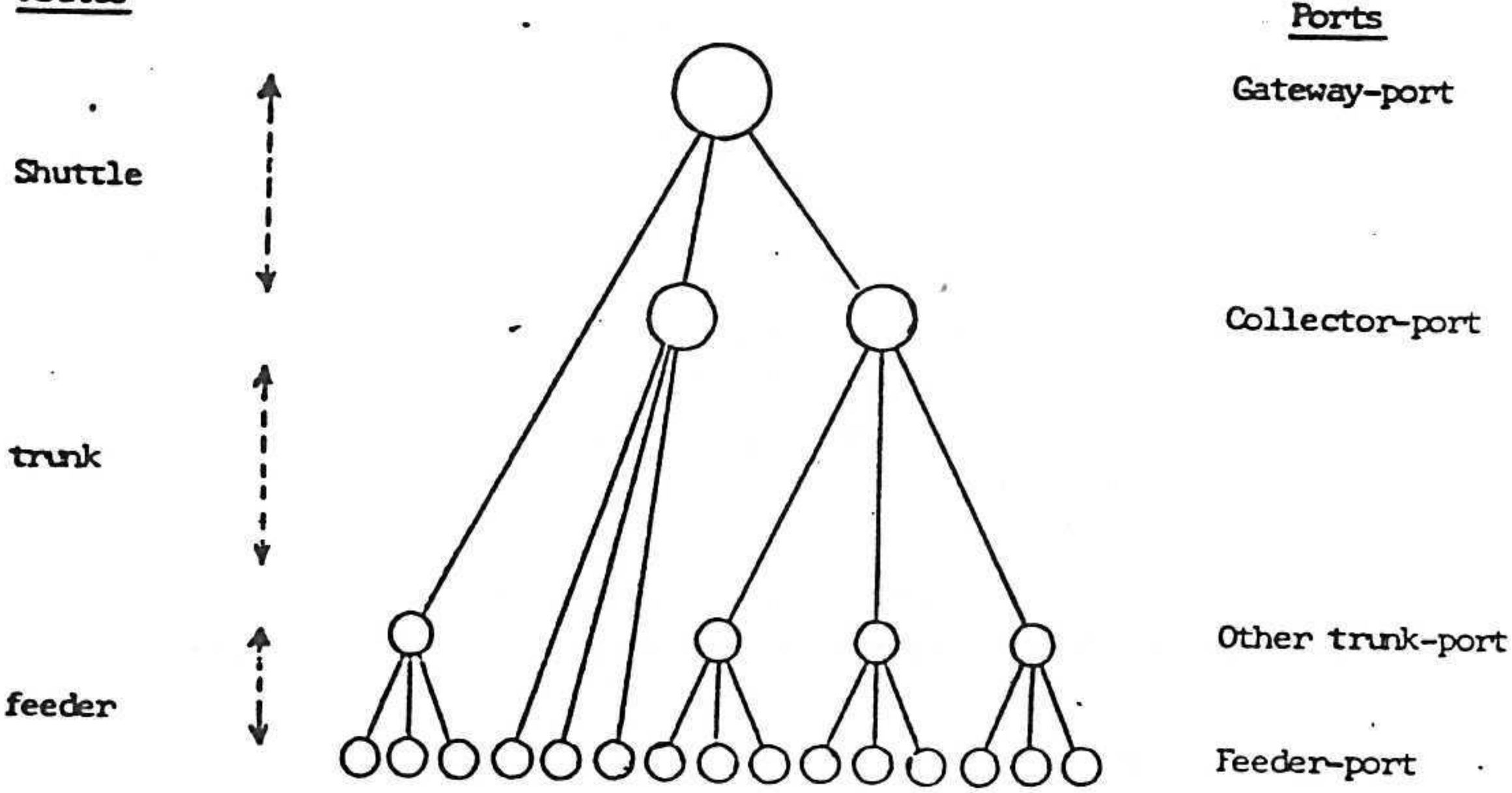
V. Navigational Aid + Telecom Systems Improvement
VI. Dredging Improvement
VII. Maritime Safety Improvement
VIII. PELNI (State Shipping Company) Operations + Management Improvement
IX. Container Operations + Management Improvement
X. Sea Communications Organization + Management
1. Management Information System
2. Institutional and Procedural Reforms
3. Uniform Accounting System
XI. Legal Aspects
XII. Manpower Development and Training
1. Master Plan
2. Training of Container Operation and Maintenance Personnel
3. Super Crash Program (Personnel Training)
4. Maritime Safety Training
XIII. Customs Procedures Improvement
XIV. Fleet Development

With a view to the proposed and planned measures for improvement, the following main elements should be kept in mind:

3.1.3 Ports

The port system will be re-classified and each of Indonesia's ports will be assigned a specific role in that system. The objective is to establish a hierarchy of functionally inter-dependent ports which will bring about a better utilization of the individual ports and lower shipping costs through re-structuring the route system and introducing trans-shipment of cargo. The hierarchy of ports can be presented as follows:

SIMPLIFIED HIERARCHY IN LINER SHIPPING



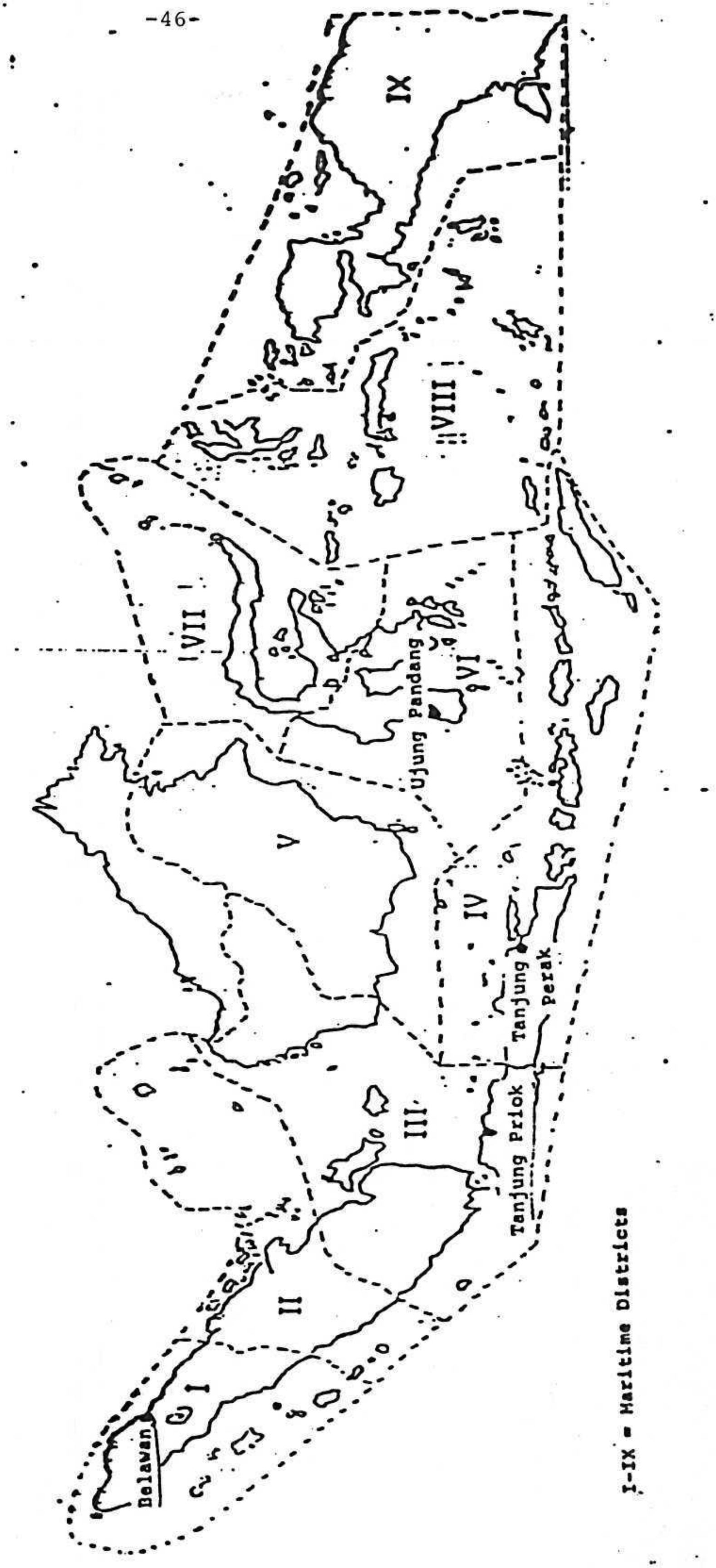
The four gateway ports - Tanjung, Priok, Surabaya, Balawan and Ujung Pandang have already been assigned their roles.

See figure 1.

FIGURE 1

MARITIME TRANSPORT ACTION PROGRAM

GATEWAY PORTS AND THEIR ZONES OF INFLUENCE



I-IX = Maritime Districts

Gateway ports will handle the bulk of import and export cargoes. Around each gateway port there will be a cluster of 6 to 8 regional trunk ports which in turn will have 4-6 feeder ports each. It is to be expected that on the basis of locational advantage 1 or 2 of the trunk ports will gradually (within 4 to 6 years) assume a dominant role in the cluster or trunk ports and thus transform themselves into regional collector ports. These collector ports will become satellite ports to the gateway ports. Incoming cargo will be unitized (container, pallets, pre-slinging) in these ports before being sent on to the gateway ports. By arranging the port system as described, the role of each port is confined to one function which will improve port operation and reduce investment requirements.

The recent Government decision to establish the gateway port administrations as publicly owned profitmaking enterprises, or PERUMS, is a first important step to improving port productivity. As Perums, the administrations of these ports will have the necessary flexibility in arranging for improved port performance. All labour in ports is to be under the control of the port administrator. The only exception will be stevedoring operations which should be organized and managed by private stevedoring companies. Recent Government decisions have been taken to this effect.

In several ports deteriorating and poorly coordinated facilities constitute a major obstacle to port operations. The lack or shortage of cargo handling equipment needs to be remedied. There is also an obvious need to expand several ports and upgrade existing facilities in the light of projected cargo flows.

3.1.4 Shipping

The establishment of a port hierarchy will require a reorganization of the shipping patterns. It is expected that the reorganization of shipping services will improve the financial and operational performance of the shipping industry. Ship itineraries will be reduced and cargo volumes in individual ports will be increased. There will be three categories of

domestic shipping services: feeder services between feeder and trunk ports; trunk services among trunk and gateway ports; and eventually shuttle services between regional collector ports and gateway ports. Although there will ultimately be two trans-shipments between feeder ports and gateway ports, the costs of these two trans-shipments will be largely offset by gains through economies of scale in ship operations.

The provision of shipping services is intended to be regulated through route permits awarded after competitive bidding. These route permits should require a minimum level of service, especially the number of port calls per month and minimum tonnage to be provided per route. For each route a minimum cost-based tariff should be established, and competition among shipping companies should be on the basis of the quality of service. The tariffs should be set such that the operator can expect a reasonable return on his investment.

Two important measures to improve the performance of the shipping industry are the establishment of a reliable system of ship maintenance and repair facilities and the provision of technical assistance and training to ship operators.

To gradually achieve better performance of the maritime transport system it will be mandatory to improve the organization, management and procedures of Indonesia's shipping operators.

Of critical importance is the quality of services provided by P.T. Pelni (state inter-island shipping company) as the largest ship operator in the country. At the present time Pelni's ability to comply with its contractual obligations is only limited. The first steps to rational operation have already been taken. Major emphasis on the program to improve shipping services will be assistance to Indonesian shipping companies, especially P.T. Pelni.

A program for rehabilitation and upgrading of ship repair and maintenance facilities is to be prepared. It is planned to achieve a complete overhaul of the country's ship repair yards by 1988.

Since shortage of experienced personnel is one of the main causes of inefficiency in the maritime transport sector a broadly-based training program will be initiated. The training program will provide for:

- training of port administration personnel, such as harbour masters, equipment operators, etc.
- training in maritime safety matters and procedures
- training of personnel from the Director General of Sea Communications (PERLA).

It is envisaged to draw up a training program for various categories of personnel in the shipping companies.

Based on findings and recommendations, Sea Communications will draw up a program to upgrade and complete the navigational aid infrastructure and search-and-rescue systems.

3.1.5 The Fourth Five-Year Plan 1984-89

The recently inaugurated fourth Indonesian 5-Year Plan, Repelita IV (1 April 1984 - 1 April 1989) in the transport sector, including sea transport and inter-island transport, has as its priority increased mobility of goods, services and, particularly as concerns rural areas, marginal areas and most severely affected areas.

For the period 1984-89 the plan envisages the following development for the main type of domestic vessels:

	No. 1984	DWT 1984	DWT Scrap.	DWT New	Total DWT 1988
Inter-Island Fleet	397	503,371	165,890	420,300	757,781
Local Fleet	1,144	172,039	53,040	98,000	218,999
Popular Fleet	3,483	180,447 (GRT)	60,000 (GRT)	85.000 (GRT)	230,000 (GRT)

As to type of new vessels needed for the Inter-Island Fleet, three recommendations can be mentioned:

A. Indonesian Ship-owner Association (INSA) : 2,000 - 3,000 DWT
B. Dutch Consultants : 1,350 - 2,500 DWT

C. Ministry of Technology:

- Semi-container (cattle)	±	3,000 DWT
- Semi-container (vegetable oil)	±	3,000 DWT
- Semi-container	±	3,000 DWT

Indonesia has an existing fleet of 94 log carriers made superfluous as a result of the national decision to stop export of logs. The intention is to convert them into local-carriers and carriers for cement, fertilizers etc.

A number of barges, dredgers and tugboats will be needed until 1988.

Considerable expansion in port facilities is also part of Repelita IV.

3.1.6 Scrapping Policy

When the Government Policy to scrap vessels older than 30 and 25 years is introduced by 1984-85 there will be great number of ships disappearing from the RLS service.
There appears today to be an excess of tonnage on certain routes, resulting in heavy rebates (up to 30%) on the fixed rates. This will no doubt result in less cut-throat competition and rebates might be abolished and thus give better operating results for the remaining ships. This will on the other hand mean an increase in shippers' sea transport cost, and this will be no incentive to raise the transport volume.

The new Government Policy will hit a number of owners who have to replace their obsolete ships at a later date.
The question is, however, whether these ships will be replaced by second-hand tonnage or by new buildings. The market for second-hand ships is low today and will probably remain so for some years. Taking into consideration the low ratio of days at sea to time in port, it is a question whether it will be economically viable for the owner to contract for new ships, as so far no significant improvement as to time in port is envisaged, but this will be improved when the MSDP is implemented.

The team visited several yards of various sizes and were struck by the situation that all yards were utilizing their docking and repair capacity to the full. No doubt the scrapping policy, when implemented, will reduce yards' order-book for repairs, as extensive steelwork is carried out on ships which will now cease to operate. This will mean a reduction in docking days for remaining ships, as these often have to wait for docking and repairing space. It should, however, be realized that some owners of ships above the age limit have kept them well maintaine and such vessels are thus not representative of the group of sub-standard ships.

3.2 FINANCE AND ASSISTANCE TO MARITIME SECTOR

A substantial element of the Maritime Sector Development Program will be equipment which is needed for capacity expansion or replacement of defunct units. The estimated costs of the Maritime Sector Development Program (MSDP) are substantial, approximately US$ 2,5 billion. The World Bank is prepared to contribute up to US$ 600 million to finance the program when a final action plan is agreed upon. It is likely that the World Bank will concentrate its assistance on financing necessary civil works. Financing proposals from bilateral sources can be expected for port equipment, new ships and dredgers, shipyard equipment and electrical equipment for navigational aids and maritime telecommunication systems.

Second-hand ships will probably have to be financed with concessional loans and training with grant aid. There are possibilities for financing (joint or parallel) with the World Bank.

Of the US$ 2,5 billion to MSDP, around US$ 1,5 billion will probably have to come from external sources. In addition to the US$ 600 million World Bank loan, the Netherlands and Japan are said to have indicated willingness to provide US$ 600 million and US$ 500 million respectively, primarily for the acquisition of new ships. Another financing source is FRG and the KfW.

4. PROCUREMENT OF SHIPS

4.1 PLANNING, BUILDING AND DELIVERY OF SHIPS

Review

The contract for the building of 30 vessels was signed between NWE and:

P.T. PANN for 10 cargo ships
10 passenger/cargo ships
SEACOM for 10 tugboats

The nine yards participating in the NWE contract were as follows:

		Cargo Ships 950/980	Cargo Ships 1650/1700	Tugs 1200/800	
Yards	Place	DWT	DWT	BHP	Total
Sandnessjøen MV	Sandnessjøen	2			2
Storvik MV	Kristiansund		2	2	4
Sterkoder MV	Kristiansund	3		2	5
Aukra Bruk A/S	Aukra		2		2
Liaan A/S	Ålesund	2			2
Kleven MV	Ulsteinvik		2		2
Ulstein/Hatlo A/S	Ulsteinvik		3	2	5
Hjørungavåg A/S	Hjørungavåg	1		2	3
Bolsønes V	Molde	2	1	2	5
Total		10	10	10	30

The specification and drawings on which the contract was based had been prepared by the Dutch consultant Bureau voor Scheepsbauw (BvS).

According to the contract ships were to be built at 9 different yards. However, NWE was responsible for the ships to be built and delivered as specified. But during the building period activities took place at 23 different sites, many of which were sub-contractors to the yards.

Building started in March 1976 and the first ship was delivered in June 1977, the last being delivered some 12 months later.

Indonesia sent a team of 8 inspectors to supervise the building of the ships.

The team was assisted by BvS and SRS together with Fiskerstrand and Eldøy as subconsultant. The engagement of the latter was part of agreement between NORAD and SEACOM. The ships were dual classed by DnV and BKI.

All cargo ships were sailed from Norway by Indonesian crews assisted by a guarantee engineer. A/S Karlander acted as owner's agent and all vessels took cargo from European ports.

NWE was responsible for training of crews. The crews were trained by the main suppliers of machinery and equipment.

Some of the ships should have been delivered to private owners. However, the prices were too high to be agreeable to them and all cargo ships were taken over by PENLI, the Indonesian State-owned inter-island shipping company, after arrival in Indonesia. During the guarantee period a team of 6 G.E.'s assisted both SEACOM and P.T.PELNI in operation of the ships.

Six ships were also to have been built in Indonesia. This was never accomplished as Indonesian authorities found that prices would be too high. However, 3 ships of same design and financed by Bapindo have been built in Indonesia. Eventually a part of the grant was used to finance these vessels.

In connection with the latter a teamof Indonesian shipbuilders came to Norway to learn shipbuilding and they worked at different yards. The Norwegian Shipping Academy was responsible for this training.

The 10 tugboats were transported by heavy-lift ships to Indonesia, accompanied by Norwegian guarantee engineers (G.E.) to take care of necessary maintenance. The tugboats were taken over by SEACOM on arrival Indonesia.

4.1.2. Planning

By start of planning serious problems with the specifications which in many respects were not fit for norwegian shipbuilding were experienced , mainly related to standards for piping and electrical equipment, but there were also difficulties with regard to steelwork such as flanges, manholes etc.

Because of the latter some of the yards wanted alterations in specifications. These were currently negotiated with the Indonesian team and the Dutch consultant.

The Dutch consultant together with the Indonesian team kept very strictly to the specification which they of course was in their right to do as the contract was based on this.

As a result the yards had a lot of work in the initial stage by preparing detail-drawings. The coordination was with NWE which, however, disposed of only one technician to perform this task. Accordingly there were problems in coordinating the drawings. The Indonesian team had to negotiate directly with each of the nine yards to avoid stoppage of work. Coordination improved after a while when coordinating meetings started. It is worth stressing that not all yards had the same standards of details and this could of course not be accepted by the Indonesians, who naturally wanted similar construction and outfitting in all sister ships.

4.1.3 Building

Negotiations for alterations continued during the constructiona period for the first vessels. However, cooperation went well and almost all disagreements were solved at the drawing board. Only minor alterations in construction were therefore requested by surveyors.

However, some difficulties were experienced due to a few yards not following specifications.

Det norske Veritas was responsible for surveying the vessels having dual DnV/BKI class. Several surveyors from BKI were at the site for inspection and for training by DnV.

Contract was based on 7 terms of payment and at each stage the work had to be approved by the Indonesian team leader before payment was effected.

Some ships were delivered on schedule. The whole program howeve was delayed by 4 - 5 months.

4.1.4 Delivery of ships

Training

As training coordinator, NWE appointed a well experienced marine engineer, arranging approximately one month's training for officers at the main suppliers' factories. Similar training was organized for Indonesian superintendents. In combination with delivery, a 2 - 3-day introduction course was establ· ished for each ship's complement.

Transfer

A/S Karlander, with an affiliated company in Jakarta, was appointed as owner's agent by Indonesia. This entailed among other things receiving and embarking all crew members. A formidable task was to secure cargo for all 20 ships, clearance, issuing of sailing orders and arranging bunkering programme.

Indonesian crews with assistance of Guarantee Engineers from NWE sailed the ships to Jakarta where P.T.PANN transferred them to P.T.PELNI.

On the maiden voyage to Indonesia one of the ships encountered a major breakdown of the main engine in the Mediteranean and had to be towed to dockyard for guarantee repairs.

As the ships were designed for tropical conditions, the crew on the ships delivered during wintertime certainly had a tough time as there were no heating facilities. Piping arrangements being freezing exposed to the Norwegian winter climate were among complications experienced. The above were, however, to some extent rectified for later deliveries.

A specialized Dutch company, JUMBOLINE,was engaged for the tran sport of tugboats. These were delivered safely in Jakarta in three shipments without any incidents. They were taken over by SEACOM upon arrivel in Jakarta.

Guarantee

To take care of the yard's responsibility during the guarantee period, NWE assigned a resident inspector in Jakarta at their own cost. In addition to this a team of four G.E.'s were stationed in Jakarta for P.T. PELNI's account. They sailed the cargo ships in accordance with an agreed schedule. A fifth G.E. payed frequent visits to the harbours where the tugs operated and rendered all possible service in the operation of these during the guarantee period.

Conclusions

The team concludes that the training program for officers was not sufficient. Having a training coordinator was a wise decision. However, it is felt that in addition the G.E. appointed for each ship should have accompanied the group of officers to which he was attached during their training.

The training was also extended for key officers to some 2 - 3 months before delivery. In this as well as other cases, counter-part training could have improved the effect of the project.

4.1.5 Performance of parties

The overall survey of the building package was taken care of by SRS and viewed as a prerequisite by NORAD. SRS/FE had a group of qualified surveyors. A high score has been reported for their execution of task, and their cooperation with the Indonesian team was apparently very satisfactory.

As can be seen from the above, a great number of persons with conflicting interests were involved in the process. Some yards, for instance, complained that SRS/FE were too keen on applying the specifications. It was also said that the management of a few yards were not too cooperative.

The Indonesian team showed willingness to discuss modifications, though they were reluctant to agree to such alterations. The Indonesian team leader was regarded by the Norwegian partie as particularily competent.

The cost of the G.E. was absorbed by P.T.PELNI. However, the team suggests that G.E.'s should have been much more involved in training, as outlined previously. It has been reported that a number of officers who signed on for the maiden voyage disembarked on arrival in Jakarta, being assigned to other duties. With this in mind, the cost of G.E. assignment ought to have been considered by NORAD to be covered by the grant as a well-documentated on-the-job training.

According to Indonesian representatives they were not guite satisfied with the way NWE handled their claims under the guarantee period, but accepted, however, that damaged parts were difficult to replace due to the customs.

With the exception of one, PELNI was satisfied with the G.E.'s assistance in operating medium speed engines, which were previously unknown to them.

The system of engaging experienced G.E.'s led to the safer operation of ships in the initial period, which is always the critical stage.

Considering that Indonesia and Norway were new to each other as development partners, that a large major project was realized in a very short time, that equipment was delivered from several European countries and that drawings were made by a foreign consultant, it appears that everything went better and was solved in a smoother way than one might have expected in advance.

4.2 DESIGN AND CHOICE OF TECHNOLOGY

4.2.1 Introduction

It should be underlined that all ships were to be built according to specifications supplied by Indonesia and developed with assistance from BvS. Indonesia wanted conventional ships with a low degree of technology. Being aware that Indonesia had not acquired any new ships for 13 years (1962) they wanted to play safe considering the level of experience possessed by their officers and crews. The Indonesian authorities did not want to introduce ships which could later present operational problems.

The ports in which RLS operate are, with some exceptions, not equipped or developed for handling advanced ships. Even today only a small percentage of the cargo is moved unitized (pallets, containers). This has to be remembered when the suitability of ships is assessed some 8 - 9 years after delivery.

4.2.2 Design related to trade and routes.

The 20 ships have been operated on different routes. When the two sizes of ships were decided 10 years ago, these were considered to have specifications suitable for a number of the fixed routes at that time.
The ships have square holds with flush tweendeck. The hatch openings are wide and in this way cargo is easily stowed and reduces cargo damage to a minimum. Ships' holds are moduled for containers which may also be stowed on deck. Forklift handling of units is possible. This makes it possible to transport unitized cargo when introduced. In this way they are a kind of multipurpose vessels. Operational wise however, they cannot of course compete with specialized ships for pallets/containers having Roll-on-Roll-off or side-port facilities. The latter will be required between gateway ports when ILS is introduced. (see chapter 3.1.3.)

Thus ships must be considered as conventional,and given today's cargo handling environment they are to some extent superior to older vessels. But taking into account that their unit cargo aspects are not utilized and that their capital and operational cost is high, they do not compare favourably with older ships in terms of earning power.

It is stated by Indonesian representatives that the ships when delivered, were too advanced, but that they are now regarded as very suitable. The vessels are still the newest ones of all the vessels in the inter-island fleet.

The tug design, developed by a Norwegian yard, has been well received by all parties and has earned a good reputation with users. The only major drawback mentioned is that instead of one propeller they ought to have been equipped with two.

4.2.3 Choice of Technology

General

According to the criteria of Norwegian yards, some of the standards contained in the specifications were low. In many cases, equipment was chosen which was no longer in production. In other instances technical solutions were selected which according to experience would cause problems. Specification also called for some expensive equipment which did not improve quality. There were also cases of special requirements which could cause difficulties later on as regards availability of spare parts and maintenance. However, standardization of components was achieved to a large extent.

Machinery, piping and electrical installations

One of the main divergencies was choice of main engines for cargo vessels. NWE at first offered Bergen diesel, but this was not accepted by the Indonesian side. Other engine builders were also in the picture. Finally one ended up with Stork (Dutch) engines as originally stated in specifications. Auxiliary engines should also have been Stork, but eventyally this was changed to Volvo Penta.

NWE also affered variable-pitch propellers for the cargo vessels, but did not succeed in having this proposal accepted. Thus,fixed propeller with gear was finally chosen and delivered.

Below some solutions specified are commented on:

- On supply of electrical equipment difficulties were encountered as specified equipment, e.g. contactors was no longer in production.
- Bronze alloy flexibles for sea water pumps ought to have been avoided, as pumps with fixed foundation do not require flexibles. These are expensive as well and might cause difficulties later on.

- Impellers in some pumps were of a special alloy and had to be specially casted in West Germany.

From the point of view of maintenance, other solutions ought to have been chosen for part of the piping system and the electrical equipment. A probable reason why this was not accepted is that inspectors had insufficient knowledge concerning these alternative solutions, having experience of older vessels only.

It is confirmed by SRS that in most cases the alterations that were implemented improved quality of the vessels.

Tugs were based on a simple technical design and proved easy to operate and maintain.

Other installations

It proved difficult to agree on choice of hydraulic equipment for cargo gear, anchor, winch and steering gear. Low pressure equipment was finally supplied.

Both cargo vessels and tugs had very simple instrumentation with only the most necessary alarms and instruments to avoid breakdowns.

Conclusions

It appears that the end results might have been improved if technology had been changed. On the other hand, owners' representative states that ships are well suited and that no serious problems are being experienced with maintenance today.

Some of the equipment was expensive without improving the quality. Consequently, money could have been saved by a different specification. As regards main components only manufacturers being represented in Indonesia should have been chosen.

4.3 ASSESMENT OF THE SHIPS DELIVERED

Owners and authorities consider that the ships were delivered according to specifications and agreed modifications. Apart from troubles with the propulsion plant for a few of the cargo vessels they have all operated to the satisfaction of all parties.
After total breakdown, due to cylinder block cracked, one of the ships had to be towed to Singapore to renew part of the engine. It has not been clarified whether this was covered by the guarantee clause or paid by the Underwriters. The breakdown, however, resulted in months of lost commission days. Another ship was reported out of service for 60 days due to gearbox damage in 1981.

Medium speed was too advanced at the time when vessels arrived causing operational problems for engineers not aquainted with this technology. Lack of proper maintenance was probably an additional reason for technical "off hire". The Stork engine installed was of a new type, and superintendents reported that weaknesses that existed have now been solved by modifications, and engines were now running to their satisfaction.

From various sources it has been reported that ships have occasionally been lying idle for long periods due to lack of spares. Parts from one ship were said to be used for another. This problem is now corrected and, according to informants, all ships are in operation.

Shipowners complain that manufacturers have not established representations in Indonesia for service and spare parts as indicated.

SEACOM is especially satisfied with the tugboats and would like to have more of the same type provided they are equipped with two propellers.

4.4 CONDITION OF SELECTED SHIPS

The team visited and inspected two cargo ships and one tugboat during its stay in Jakarta and Palembang. The following are our observations in short:

Accommodation

- Deck coatings cracked several places.
- Ceiling fibre plates exposed to water and partly damaged.
- Wooden doors not maintained.
- Cabins gave a good overall impression.
- No airconditioning installed.

Bridge

- Equipment seemed to be very well kept.
- On one ship, rudder indicator was out of function.

Safety Equipment

- Davit blocks well greased and lifeboats recently launched. Working boat on one ship had no propeller and no rudder. Engine had not been turned for one year.
- Lifeboat seemed to be in good condition, but lashing was insufficient.
- Fire hoses were not in their boxes. This was reported to be necessary while in harbour because of thieves.
- On one ship, bolts in flanges for main fire line in cargo-hold were found not tightened. In case of fire this would have caused insufficient water pressure and leakage in hold.

Moorings

- Rollers forward and aft immovable due to corrosion.
- Small oil leakage on oil supply to capstan.

Equipment on deck

- Flame screens on ventilation pipes either corroded, damaged or overpainted.
- A box for electrical sockets was completely loose due to corrosion.

Cargo Gear

- Seemed to be in good working condition, some oil leakages from pipes.

Surface Treatment

- Overall view is that paint/maintenance on steel structure is badly neglected. Deck covering on main deck loose on one vessel, probably serious corrosion of steel plating.
- Cargo holds probably not painted since delivery and corrosion had started on welding seams.
- On one ship hatches and ventilation ducts on forecastle were heavily corroded.
- Surface treatment has to be improved to avoid severe corrosion of plating and expensive repair work later on.

Conclusions

Machinery and complicated equipment appears very well kept, while work which can easily be done by unskilled personnel has been neglected.

Negligence of maintenance seems to be more an administrative problem than due to crews' insufficient knowledge as to how to maintain the ship.

The tugboat was better maintained than the cargo vessels with regard to equipment on deck. Both, however, were neglected with regard to surface treatment.

It must be recognized that our comments and conclusions in chapter 4 are meant to be positive criticism and state some of the facts that now seem relevant in the retrospect and which should be duly taken care of in future similar projects.

5. THE GRANT PROGRAM

5.1 INTRODUCTION

The following paragraphs describe each of the part-projects financed under the grant.

They also contain some comments and conclusions made by the team members.

As Building Supervision as well as Transport and Delivery of Ships are duly commented upon in Chapter 4, according to the Terms of Reference, these activities are only partly contained in this chapter.
In Appendix V will be found Overview of Disbursement.

5.2 BUILDING SUPERVISION AT THE YARDS (NOK 7.4 MILL)

The Dutch consultancy firm of Bureau voor Sheepsbauw (BvS), having also worked out the ship's design, was appointed by Indonesia to assist P.T.PANN and the owners' representative in

- Conducting negotiations with builders on price for modifications.

- Attending shop, dock and sea trials.

- Advising on methods, procedures, useful changes of design, lay-out, material and workmanship.

Acting as owners' representatives, eight qualified superintendents were selected by Indonesia. They had, however, only experience of the operation side of older ships and this task was therefore quite new to them.

The SRS supervision became much more extensive than anticipated, there being 23 different sites (some as sub-contractors) to deal

with instead of 9 according to the contract. It also entailed testing of Volvo Auxiliaries and DEUTZ main engines for the tugs. The main engines - Stork - to the cargo ships were tested by the Dutch consultants.

It may be concluded that this was a fruitful use of grant money, firstly, through the transfer of technology to supervising the building of ships. The leader of the team has since become the European Co-ordinator for Indonesia building programs for 28 ships and several of the other members of the team have been appointed Surveyors for new buildings. Secondly, the supervision by SRS did probably improve the quality of the vessels.

Due to the low standard of English speaking among the yard personnel, communication proved at times very difficult for the Indonesian team.

The appointment of Norwegian surveyors was a requirement of NORAD and reluctantly agreed by Indonesia, but this assistance proved to be very successful. Actually this model, the hiring of local surveyors, has later been adopted by the Indonesians for their newbuilding programs abroad.

5.3. TRANSPORT AND SAILING OF SHIPS TO INDONESIAN PORTS

The 10 tugboats were all transported to Jakarta by heavylift vessels, in three shipments. NORAD negotiated these and co-ordinated loading dates. The planning and delivery went successfully.

A/S Karlander/Johs. Larsen acted as owners' agents for PELNI, co-ordinating embarkation of officers and ratings. It has been recorded that the training program was too short, but it is also rumoured that not all officers adopt an active attitude towards training . It is not surprising if taking delivery of 20 cargo ships in the space of 12 months was a heavy burden on the whole administration of PELNI, also the selection of well qualified personnel.

Being owners' agents, A/S Karlander arranged booking of cargo and co-ordinated the sailing orders and the bunkering of ships.

Altogether NOK 18,6 mill. was spent on conveyance of ships, bunkers and on freight charges for tugs. This had no development effect, and must be regarded as a kind of subsidy of the total building price.

5.4 DELIVERY OF SPARE PARTS (NOK 2.8 MILL)

Spare parts to each of the ships were included in the building contract. The choice of spares was initially determined by BvS and Indonesia, and a booklet with details of spares numbered according to SFI Group System was supplied by NWE.
For practical reasons these spares, apart from class requirements, were packed and shipped on a few of the vessels for later distribution. As there were difficulties with Customs on arrival, this distribution did not materialize. NWE was against large supplies of spare parts and this must also be viewed in connection with indications that most important suppliers of equipment intended to establish service centres in Indonesia. This, the team regrets, never came to fulfilment.

In October 1978 a list of spare parts to the 20 cargo ships was presented to NORAD and estimated to cost NOK 3,5 mill. After having consulted NWE, who recommended a rather drastic reduction for some of the items, a revised list was forwarded by SEACOM and finally agreed upon. Due to formalities, among others letter of credit, documents and dispute of insurance cover, heavy delays were encountered until shipments could take place, followed by difficulties in clearing parts through Customs. On receipt in Jakarta, spare parts were finally delivered to P.T.PANN's newly established central store.

Getting spare parts, and being exempted from duty through Customs often proves troublesome and especially so when needed in a hurry. Indonesia's reasons for limiting these procedures by ordering large amounts of spares are therefore understandable. Another ulterior motive could be that by having spares "free of charge" this contributed to lower operating cost.

From all sources it was reported that spare parts are one of the major obstacles for RLS ships calling only at domestic ports. A well evaluated stock list for spares to be kept in a fleet central store for ships with same equipment is therefore fully supported by the team.

It may be concluded that the money spent on spare parts has been very useful in increasing the number of commission days for vessels. This has given better service to shippers and passengers and improved the company's earning capacity.

5.5 PROCUREMENT OF COMBINED PASSENGER/CARGO SHIP (NOK 12.6 MILL)

According to Article III in the Agreement, the grant should also cover the costs in connection with purchase etc. of one second-hand passenger/cargo-ship. It was further agreed upon that P.T.Pann should employ a Norwegian broker to negotiate the contract. Subject to availability in the market and competitive price the ship should be of Norwegian registry. At that time no specific amount was allocated for this procurement.

A large number of ships, some flying the Norwegian flag, were offered by Norwegian brokers during 1977/78, but none was accepted by the Indonesian Government. As an alternative it was decided to evaluate conversion of one of four combined cargo/deck passenger ships operated by PELNI. Together with Indonesian consultants, Det norske Veritas surveyed the ships (during 1978/79) and estimated conversion work on the most suitable ships to cost USD 3,2 mill.

Taking into consideration the age of the ship, built in 1961, and conversion cost, Indonesia found the project not economically feasible and instead decided to purchase a second-hand Japanese ship, offered at a price of USD 8,0 mill. with conversion work included. The ship was to be financed under the "Second Shipping Project" between Indonesia and the World Bank, utilizing USD 5,5 Mill. of their allocation to this project. NORAD was requested to co-finance the remainder of USD 2,5 mill.

Appraisal of the purchase was made by the World Bank as the main contractor and according to guidelines for multi-bi financing NORAD merely followed the recommendation of the Bank.

Delivery of M/S "GREAT EMERALD", built in Japan 1971, took place in May 1980 and the ship was re-named M/S "TAMPOMAS 2" under PELNI's operation. The ships was lost in January 1981 after a fire, with the tragic loss of hundreds of lives.

Taking into consideration that more than three years elapsed from the first preparation until purchase was executed, this caused considerable strain on the administration on both sides. It ought to have been possible to find out at an earlier date whether the rebuilding of elderly ships was recommendable without extensive surveys and cost estimates.

5.6 BUILDING OF SHIPS IN INDONESIA

5.6.1 Norwegian Technical Assistance

According to the financial agreement of February 23rd, 1976 between Indonesia and A/S Eksportfinans, NOK 100 mill. was given as credit for the building of 6 vessels in Indonesia (3 vessels of 980 DWT and 3 vessels of 1700 DWT.)

According to contract and letter of understanding between NWE and P.T.PANN the scope of technical assistance comprised the following elements and activities:

- Provision of all relevant drawings and specifications developed for the corresponding building program in Norway in accordance with separate specified list.

- Provision of details of deliveries from sub-contractors for Norwegian built vessels such as prices, terms and scopes of delivery.

- Necessary assistance through resident representatives and allocated active project personnel in the acquisition of materials.

- Necessary assistance throughout the tendering process and later contractual matters with designated Indonesian yards.

- Assisting in supervision and surveillance of the building of vessels at designated yards.

- Legalize down payments to the yard to be made under the financial agreement between Indonesia and Norway.

- Technical assistance in general and transfer of experience gained from the corresponding building activities in Norway within the possibilities and limitations of the overall organizational pattern.

Ultimately all costs related to necessary NWE activities were to be borne by the designated Indonesian yard as part of their contract with P.T.Pann and thus included in the credit of NOK 100 mill.

To further safeguard the proper fulfilment of the project NORAD was willing to provide NOK 5 mill. from the grant and to be used for the building program in Indonesia.

The building was planned to take place nearly in parallel with the building in Norway. However, building of these vessels was never accomplished and hence one of the major reasons for initially giving the grant fell away. Reasons why the vessels were not built may have been among others:

- Indonesia did not feel that its own yards were sufficiently competent in building of new ships.

- There was a limited number of vessels making it difficult for designated yards to finance necessary investments in new equipment required.

- Vessels were too expensive.

The most important reason was probably the latter, as Indonesia claimed that the building cost must be USD 1,600 per ton deadweight (DWT) or below, as this was the maximum the market could stand. At this price, the owner had a possiblility to cover his operating and capital costs with a marginal profit. To this the team will remark that liner ships earning capacity is as a rule, not conditional on the DWT, but on the bale capacity. And even more important: the ships' ability for a quick turn-around in port which again depends on her design, cargo packing and shore organization for cargo-handling.

The building costs in Indonesia for the six ships were estimated at:

- for vessels of 950 DWT USD 2,000 per DWT
- for vessels of 1,750 DWT USD 1,800 per DWT

This was recorded in December 1977 and even with modification the price could only be reduced by some 7%. Consequently, the parties had to agree that only a new and very basic design must be obtained or developed. Great efforts were made, among others appraisal of ships of similar size built in the Philippines, but regretfully in vain.
The leader of NWE building team stayed two years in Indonesia in order to evaluate all possibilities.

There are still no Inter-Island ships built in Indonesia except for those mentioned in para 5.6.2.

Cargo handling in domestic trade is rather conventional; only a very small percentage is moved unitized. The number of days spent in port for loading/discharging and waiting for cargo is high, and there is much competition for cargo. There is today, and also probably for years to come, a buyers market for second-hand ships.

With this in mind owners will therefore tend to buy cheaper

second-hand ships which in turn give them profit. Thus, new ships will not be profitable unless the more modern cargo concept is introduced.

According to the above, the team concludes that it was not a market in 1977, which could absorb RLS ships built in Indonesia except if subsidized.

5.6.2 Financial assistance for completion of two ships (NOK 2.1 mill.)

With financial support from BAPINDO, P.T.PANN signed a contract in December 1975 for three ships of 950 DWT to be built in three different yards. The specification of these was similar to those later being built by NWE.

In March 1979 these ships were still only about 80% finished, due to the yards' financial situation.
The explanation could also be that during contract negotiations the yard was too eager to secure the contract, and reduced its offer below estimated cost price. It could also be lack of experience in building new ships.

After an urgent request from SEACOM, NORAD - realizing Indonesia's vital need for Inter-Island vessels - approved financing out of the grant the sum of NOK 2,1 mill. for completion of two ships.

It was not possible to survey any of these PELNI ships during the team's visit, as they were trading on a pioneer service in Eastern waters and only limited information were available for the two ships:

M/S "NIAGA 16" built at Dock Pelita Bahari had some time ago a 15 days off-hire for repairs of gearbox, probably on account of improper maintenance. She transported 28.000 tons of cargo in 1983.
M/S "NIAGA 11" built at Dock Bakin was at present out of service as a result of the main engine's counterweight falling off. She carried 2,500 passengers in 1980.

Realizing that there had been uncertainty at an early stage as to whether the building of ships could be undertaken in Indonesia, the team questioned why technical assistance from Norwegian experts was not considered. No report or comments have been recorded on this.

The ships no doubt offer appropriate service to passengers and shippers in a remote area classified as non-economical. And considering limitation of details the team nevertheless feels that NOK 2.1 mill utilized for completion of the ships was justified.

5.7 DELIVERY OF PILOT DESIGN SYSTEM TO BKI (NOK 0.4 MILL)

The Biro Klasifikase Indonesia (BKI) was established in 1974 as a state-owned company under SEACOM. Their main responsibility is classification of ships comprising hull, machinery and load-line. The safety aspects of ships' equipment and their periodical survey lies with a separate division in SEACOM.

All Indonesian ships, above a certain size (at present some 3.000 ?), have to be classified by BKI. BKI is not yet fully recognized internationally and Indonesian oceangoing vessels therefore have a dual class.

BKI has joint co-operation with major classification societies an in the offshore sector they have a special agreement with Det norske Veritas (DnV) whereby design is controlled by DnV while inspection is carried out by BKI, who in this sector reports to the Ministry of Oil and Energy.

BKI's main activities are within registration and classification of ships, offshore industry, consultant and advisory services and laboratory services. In addition to SEACOM, BKI plays an important role in improving safety of Indonesian ships.

Upon request from Indonesia in June 1982 for upgrading of BKI facilities, it was agreed by NORAD to supply DnV's Pilot System,

together with a desktop computer.

The Pilot System comprises programs for analysis of ships and offshore structures which at present have to be checked and calculated by BKI manually.

The computer was shipped by DnV in June 1983, but got no further than Singapore, due to Custom regulations in Indonesia. During the team's visit in April this year, the computer was still in Singapore, but at our meetings with the Embassy, BKI and SEACOM the importation problem seemed to have been solved.

A training course will be run by DnV Singapore as soon as delivery is completed. Leasing of programs is included in the contract and thus BKI wants the leasing period to be extended by a period corresponding to the delay in delivery. The team does not intend to blame anyone in particular for this deplorable incident, but merely points out that an import licence should have been arranged before despatch of the computer and documents required for this should be well known. Some information gap is also evident.

The introduction of the Pilot Design System to BKI will, when implemented this summer, strengthen their supporting services to shipyards and improve BKI's ability to cope with safety aspects for ships and offshore industry. As computer technology is a new field in BKI, further training will be needed.

5.8 PLANNED MAINTENANCE SYSTEM - SFI GROUP SYSTEM (NOK 2.3 MILL)

General

A planned maintenance system should cover all necessary information for knowing when and how to maintain the various components onboard.
Integrated with a spare part system it should also provide information on spares in stock and their location, as well as reminder to purchase when the stock of spares has reached a minimum.

The advantage of this is:

- Better planning of work by presentation of deadline for surveys, overhauls and periodical maintenance.
- Ready presentation of repair lists for programmed docking.
- Prior identification of spares availability before maintenance is undertaken.

And the result should be: less days off-hire due to engine breakdown, less work to be executed at dockyards, improved machinery output, reduced cost of repairs and maintenance, as well as improved safety for those onboard.

Indonesia has experienced difficulties in undertaking proper maintenance on their ships and many incidents at sea are reported. To rectify this, Indonesia evaluated several maintenance systems on the market and TSAR, developed by the Shipping Research Institute of Norway (NSFI), was chosen for a pilot project.

During the life span of a ship a great deal of information has to be exchanged between shipping companies, classification societies and yards. Since each is using its own coding system, this entails re-classification of data. The SFI Group System developed by NSFI offers classification code for use in specification, drawing numbers, estimates, purchasing, repair and spare parts.

In order to have an universal system SEACOM decided to implement SFI Group System for BKI at three yards, and NSFI were given the contract for execution of both projects in conjunction with Indonesian consultants.

Shipping Companies

The following owners were selected for the TSAR maintenance system:

P.T. PELNI	M/S "KERENCI"	RLS passenger ship (new)
P.T. PELNI	" "KAMBUNA"	" " " "
P.T. Nusa Tenggara	" "NIAGA 34"	"
P.T. ~~Sriwijay Raya Lines~~ Siantan & Co.	" "NIAGA 37"	"
P.T. Bahtera Adhiguna	" "ADHIGUNA DHARMA"	log carrier

The result for one ship is promising, but the final report from NSFI will not be ready until June 1984. However, success will depend on a regular supply of spare parts and on users' motivation.

Yards-BKI

The SFI Group System was introduced to the following:

P.T. Dok Surabaya - They have previously used a Dutch planning system, but are presently co-implementing the SFI Group System. This process, they maintain, has to be taken step by step.

P.T. Pelita Bahari - For the time being the SFI system is used only for newbuildings. Since 1975 the yard has been using a Dutch system which is also used by other yards. They are planning to introduce the SFI system also for maintenance, but require more time for a gradual implementation.

P.T. Dok Tanjung Priok - is still using its old group system, but is interested in integrating the SFI system gradually. As to when the time will be ripe for implementation, this will depend on how fast the shipowners are willing to take the system into use.

BKI - SFI Group System is implemented for filing and approval of drawings.

The team concludes that the use of the SFI Group System is at present limited, compared to what it may later develop into. This is partly due to the short time it has been practised.

It is also required that the system be applied by companies having a larger fleet (P.T. PELNI and P.T. PERTAMINA) or that P.T. PANN's ships be included.
When shipyards, as mentioned above, is further extending its use followed by Technical Consultants, BKI may be in a better position to introduce the codes on a much broader scale.

For the TSAR system, much depends on the motivation of shore based staff, and the ability and competence of ship's crew. In this connection improved shipboard management, with decentralization, may prove to be of great value.
Mention should also be made of the role of the Maritime Academy in highlighting education on the maintenance aspects.
This could make officers more adaptable to new ideas and increase their technical competence.

The pilot project of planned maintenance system will give some useful experience for the future goal to improve ships' technical operation, but only if followed by a more in-depth practical study as outlined in Appendix VIII.

The use of the SFI Group System, so far limited to but a few, will only when implemented on a broader scale by yards and shipowners have a wide effect on the standardization. BKI will play an important role here.

5.9 ADVISERS TO P.T. PANN (NOK 4.8 MILL)

P.T.PANN is a shortened version of Pengembangan Armada Niaga Nasional, which is translated as National Fleet Development Corporation.

The company was established in 1974, with the Indonesian Government holding 60% of the shares. Bapindo, the State Development Bank, holds the remaining 40%. The source of the bank's funds has up to now been its share capital, loan from Bapindo and finance obtained through the World Bank and other international institutions.

Purpose and objective of the corporation are to carry out activities directed towards the guidance and expansion of the national merchant fleet, with special emphasis on inter-island fleet development, being:

- Procurement of new-buildings or second-hand vessels, which will be further sold (cash or by instalments) or leased to

national shipping companies:

- Procurement of equipment for docks and shipyards.

- Participation in capital investment in shipping companies and shipyards.

- Participation in other businesses supporting the development of the national merchant fleet.

Essentially, P.T.PANN exercises a dual role, namely:

- As a company with activities in the field of procurement of ships and assisting in the development of the national shipping companies, for which P.T.PANN acts as a ship-financing/owning/leasing company.

- As an instrument for execution of government policy for the development of the national merchant fleet, in which P.T. PANN plays the role of planning for a nation-wide development/expansion of the fleet, including implementation of standardization of ships and participation in giving direction to and guidance in shipping operations and management.

P.T.PANN has about 50 employees and during its years of operation has purchased more than 30 new buildings for Indonesian companies. At present they have under their umbrella 69 ships, totalling 121.000 DWT, representing 21% of the RLS tonnage, and with 17 private and 1 state owned companies as their clients.

The 20 cargo-ships delivered from NWE were all taken over by P.T.PANN, who upon their arrival in Jakarta transferred the ships to P.T.PELNI, these becoming the equity of the latter company.

Since 1977 a financial and a technical adviser have been recruited through the International Maritime Organization (IMO). The last Technical Adviser ended his assignment in December 1981 and the Financial Adviser left in June 1982. In July 1982 IMO submitted a proposal to P.T.PANN for staff to fill these vacancies and NORAD expressed their concern that IMO had been unable to fill these posts in time for proper overlapping.

Last year this recruitment was taken over by NORAD, a decision that should have been considered when the last adviser ended his assignment. A Norwegian Technical Adviser will start work in June this year and CV for a Norwegian Financial Adviser has been forwarded to P.T.PANN/SEACOM for consideration.

The arguments for not recruiting personnel through NORAD were the absence of a personnel agreement with Indonesia and difficulties in recruiting qualified Norwegian personnel. In 1976 it was therefore decided to contact IMO for these recruitments. Taking due note of the considerable fee paid to IMO for these recruitments, the team does not agree that competent Norwegian experts could not have been found in the market at the same cost. These experts could no doubt have been recruited either by direct contract or through Norwegian shipping companies, as now done.

The team would like to emphasize the need for NORAD to work out procedures for recruitment of staff to countries where NORAD has no representation. Otherwise delays will occur, as now being experienced in the recruitment of Norwegian personnel.

In this connection the team would also emphasize the fact that vast expertise can be found within the maritime field in Norway. Recruitment through international institutions, and specially IMO, heavily supported by Norwegian multi-bi funds, should therefore be thoroughly explored by NORAD.

P.T. PANN has expressed full satisfaction with the qualifications of staff recruited through IMO and their significant contribution to the development of the government corporation; with this the team agrees. This must also be seen in the light of SEACOM's giving top priority to these requirements by earmarking the remaining funds for such assistance.

5.10 FEASIBILITY STUDY FOR A DOCKYARD TRAINING CENTRE (NOK 0.3 MILL)

Introduction

Realizing the heavy future demand for ship-repairing and the building of new ships at Indonesian yards, NORAD agreed to finance a feasibility study on a Dockyard Training Centre (DTC). The International School of Technology (ISOT) was given the contract after competition with other consultants, and their report was finalized in September 1979.

Capacity and Location

To fulfill the industry's requirements, the training centre should have a capacity of 230, giving training for some 1.600 students anually, who should all have their basic education beforehand from technical colleges or equivalent schools. Students from the industry would also be allowed to enter the courses. It was envisaged that the DTC should be situated on an available site next to the Training Centre for dock and harbour workers where a training environment already exist.

Recommendation by consultant

According to the consultant, the main effort should be directed to the training of operators (welders, platers and pipeworkers), as well as foremen. The selection of good instructors and the building-up of the training staff, were also recommended as an early activity of the centre. For the training of management and staff, on-the-job training and special courses at DTC were proposed.

Cost (1979 level)

Cost estimates were as follows:

Buildings and construction	NOK	8.0 mill.
Machines and equipment	"	2.5 "
Teaching aids	"	0.8 "
Expatriate experts (250 man/months)	"	7.5 "
Project administration, course consumables ..	"	2.2 "
	NOK	21.0 mill.

Building and construction cost of NOK 8.0 mill. would have been Indonesia's contribution together with local administration staff and instructors.

Later Requests

As a follow-up to this study, SEACOM approached NORAD in July 1981 in order to have ISOT make a detailed design and drawing of the DTC building, as well as specification of machinery and equipment required, together with cost estimate. It was considered by NORAD that participation in this project should also include further involvement by donor country for development of the DTC.

Having only limited funds available outside already agreed programs, NORAD therefore had to decline the proposal.

Master plan repair and maintenance by dockyard

In connection with the Maritime Sector Development Programme (MSDP) as described under para. 3.1, the Ship Research Institute of Norway (NSFI) was given the task of working out a report under the above heading. The cost of this was not covered by NORAD grant. Their final report was submitted to the Indonesian authorities in February 1984. Some of the highlights in this study are commented upon below in order to evaluate the present policy for dockyards manpower development.

The practice of extending the validity of certificates without proper inspection of vessel undermines the regulations, with the effect that sub-standard ships are allowed to operate, giving high non-commissioning days. A more strict enforcement of the regulations by authorities and classification societies will improve the standard of ships in the long run.

To a large extent the maintenance policy practised by the shipping companies will determine the volume of work carried out by the ship's crew or dockyard/workshop. If a planned maintenance system is not adhered to on board, the result will be a heavier work load on the shipyards, who already have great problems in coping with the industry's requirements. In addition,

if a well prepared docklist is not presented to the yard well in advance of the ship's arrival, this will add to the dockyard's inability to comply efficiently with the ship owner's requirement and will thus extend days in dock.

Some shipowners carry out preventive maintenance in a professional manner and are able to obtain required spares in time. The majority of shipowners have, however, not reached this stage of competency.

The total number of employees in the shipyards is about 16.000 men. Yards have a yearly training demand for 1.000. The report does not recommend establishment of a Dockyard Training Centre for workers, as similar training could be found in existing institutions for fitters, steelworkers, flame-cutters, welders, carpenters and electricians.

The report further states that the best way to achieve improvements lies in the administrative systems. Here is a need for better planning, scheduling and material management.

In order to accomplish this, a centre should be established in Jakarta and another in Surabaya, where middle-management instructors and foremen should be trained. This, the team supposes is related to the Maritime Polytechnic, proposed in the Master Plan for Integrated Sea Communications Manpower Development and Training, to be established in Jakarta, and the Polytechnic for Dock- and Shipyard to be set up in Surabaya in 1986.

Comments

The team considers the problem facing the educational system related to shipyards to be of considerable magnitude, and it will take years to upgrade the educational systems to meet part of the shipyards' urgent needs. The shipyards visited all expressed their concern at being unable to cater for advanced courses for their skilled workers.

If a decision to establish a DTC had been taken in 1979 when the ISOT Study was presented, the industry's training needs would already have been in process of fulfilment; this we think would have been a wise step. The DTC would in addition house the administration of the Diving School as commented in next chapter.

Another approach which could give more concentrated results would be to attach the training to a specific yard, combined with technical assistance in upgrading the dockyards' repair capacity to develop later into the building of less advanced RLS and service ships. Other yards or engineering service firms should also have access to such training. If such a project could be established as some kind of joint venture with a Norwegian yard, the original intention of the whole Indonesia-Norwegian project could then be fulfilled as the team believes that with a commercial input, projects have a greater chance of success.

The above chapter has been given a broad presentation in order to underline some of the main areas where possible Norwegian assistance could be channeled:
- safety - ship maintenance - training - upgrading of yards.

5.11 FEASIBILITY STUDY FOR A DIVING SCHOOL (NOK 0.1 MILL)

The Study

After having completed the feasibility study for the Dockyard Training Center, the International School of Technology was awarded a contract for a feasibility study on the Commercial Diving School. Their report was completed in January 1980.

The report stressed the heavy requirements for divers along coastal waters and also within the offshore oil operation. At that time the heaviest requirements for divers were for pearl hunting, salvage, construction, maintenance of ports, ships' wrecks, as well as offshore diving in connection with oil platforms and rigs. It was estimated that some 100 Indonesians and 75 foreign divers were operating in Indonesia.

The total initial cost of the project was estimated at:

Buildings and training pool	USD	0.160 mill.
Diving equipment and tank	"	0.800 "
Instructors (two years)	"	1.200 "
Training materials	"	0.750 "
	USD	2.350 mill.

In addition to the above comes local operating cost and wages for Indonesian counterparts.

The number of students passing the examination each year was estimated to 30.

Although items 1 and 2 above should be considered as a long term investment, the total two years expenditure according to the study was estimated at USD 32.000 per diver. This should have justified the establishment of the school, taking into consideration that a diver can produce a gross profit of some USD 20.000 per year.

Unfortunately, there has been no follow-up to this study, but according to Vol. II of the Master Plan for Manpower Development and Training, the above proposal from ISOT is considered as ranking high in priority, although no funds have been allocated for implementation.

Present situation

Until 1989 some 120 divers will have to be trained each year, thereafter increasing up to 200, but only following institutes offers education:

- A very basic course (concentrating on SCUBA diving) can be given at the Naval School in Surabaya.

- Pertamina provides courses for its own personnel.

- P.T. Neptune in Jakarta provides basic training (60 per year).

The capacity and level are considered very basic and not in accordance with the required standards.

At present more than 200 rigs/platforms/structures have to be served by divers and thus there is a basic need for developing a Diving School, based upon sound training techniques, supported by safety legislation.

Conclusion

With reference to Norwegian assistance in establishing a diving centre abroad some years ago and the development of our own training for divers, especially offshore, the team considers that available and also very competent expertise exists in Norway within this sector. Due to heavy cost involved for establishing a Diving School, the team can not, however, propose further Norwegian assistance in this field, unless finance can be obtained through other sources.

It is rather difficult to assess the usefulness of the studies on the Dockyard Training and the Diving School, as nothing has actually materialized. Basically, education should be linked to already existing schools, but we are inclined to believe that a Dockyard Training Center, together with a Diving School if established some years ago, would by now have proved valuable. But the proposal as outlined in para 5.10, would have given a more direct yield.

5.12 TRANSMIGRATION STUDY (NOK 0.3 MILL)

Introduction

The transmigration program of Indonesia aims at large-scale movements of people - as many as 500.000 families during a five-year period. These families are moved from densely populated parts of the country for resettlement in less populated regions.

The province of Riau, north-east of Singapore, is one of the recipient areas and contains several transmigration settlements in which some 24.000 families have settled. The Government is

further planning to move additional numbers of families to three islands, Natuna, Bintan and Galong, located within the boundaries of this province.

In order to carry out a study for the Riau Province a contract between the Norwegian Shipping Development Company (SHIPDECO) and NORAD was signed and their report delivered in January 1983.

The study

The object of the study was:

- To faciliate the transmigration and settlement of the migrants on these three islands.

- To improve the transport of products and supplies in order to improve the levels of living for families to be settled in these areas.

In addition the consultant should also consider the feasibility of using mobile health clinics.

During 1981/1982 one of the local lines carried some 10.000 passengers and 200 tons of cargo on two routes. Port facilities were lacking and the few existing ports on the islands all had shallow waters. When more migrants settle down the consultant foresees increased transport demand, but the ratio passenger/cargo to be unchanged.

On this basis and because some local boats could also carry cargo, a Catamaran designed to accommodate 300 passengers and a small amount of cargo was proposed. This solution required only modest port development. For professional medical Service to remote areas Floating Hospitals were recommended.

Since fishery is intended to be one of the main areas of employment for new settlers, proper facilities should be considered to meet modern demands as to receiving, processing and packing storage. The study concludes that such facilities could be introduced through a "Floating Fish Factory". A concept which the team finds might be a too advanced technology solution in present circumstances.

Later Development - comments

Obviously the team had no chance to go into depth on this project or to appraise the financial aspects of the various suggestions. The study was requested by the Junior Minister of Transmigration through SEACOM, and the latter informs us that the proposals are still under consideration.

As a rule it has proven that the best solution is separate transport modes for passenger and cargo, and especially so on short distances and with relatively many ports of call.

If combination is desirable, a ferry based on the ro-ro or side-port concept is suggested by the consultant.

The team would add that elsewhere in the world, a Catamaran is known to provide a good and reliable service for passengers. The operation of a Catamaran would require special attention being paid to training of crew. But given the opportunity to have some leisure for shipboard management the operator could probably trace willing Indonesian officers interested in this service.

The development of port infrastructure for ordinary cargo/passenger ships is expensive and will take time, which is already running short. The Catamaran will require only minor investment in ports, and the team concludes that this alternative, which could contribute to the social welfare of migrants, should be looked further into. At present they might find themselves isolated, having less opportunity to communicate with the outside world.

The Catamaran alternative, for transmigration transport - although controversial - seems to be a quick, safe and not too costly solution, which the team finds worthwhile pursuing when details not contained in the report are available. However, this choice does not meet the demand if cargo movement grows.

5.13 TRAINING PROGRAMMES BY THE NORWEGIAN SHIPPING ACADEMY (NOK 9.4 MILL)

The grant financed a great number of seminars and courses, some of which were of several months duration. Most of the education and training programme under the grant was administered by the Norwegian Shipping Academy (NSA) and by SEACOM. Besides discussing these projects, reference will be made to the Professional Shipping Course run by the NSA, but which has not been financed by this grant. More than 1300 Indonesians are estimated to have attended one or several of these seminars and courses during the period.
Complete list of the courses and seminars will be found in Appendix VII.

5.13.1 Courses and seminars 1977 -80.

This first part of the NSA programme was located in Norway, in several third countries and in Indonesia. It involved mostly higher or middle-high level management.

Much of the information on which the team has based its evaluation is drawn from interviews. The team has noticed a certain variation among informants in the information and the views they have forwarded.

A. The training at Norwegian yards.
The grant covered training of dockyard personnel during the period of construction at the Norwegian yards.
According to the NSA a total of 9 Indonesians spent about 11 months in Norway, of whom about 6 at several of the yards on the Møre coast, and 3 in Oslo. The NSA was responsible, under an agreement with NORAD, for administering the programme.

The team notes that the programme appears to have been neither well planned nor satisfactorily implemented. The role which according to the agreement was to be played by the NWE and/or

the individual yards is somewhat unclear. The team has recorded rather differing assessments of the actual contribution which they made. It appears, however, that the NWE as contractual counterpart could have made a greater effort to set up a more efficient training program. The final responsibility, however, is with the NSA.

Difficulty in or lack of communication when the programme was set up in the first place also play a role. Finally, language problems on both sides as well as cultural barriers affected the programme. Naturally, the fact that the Indonesian group found itself in an unfamiliar social and cultural setting meant that adaption became difficult.

Yet another factor was the relatively short time at disposal for planning and setting up the program. It seems to have improved with time. The last three months were reported to have been spent at a shipyard in Oslo which agreed to set up a crash training program at short notice.

B. Other activities.

A series of courses and seminars were conducted abroad, some travels by Indonesian representatives undertaken, all covered by the grant. The team, as already mentioned, is not in a position to evaluate these activities. It seems warranted, however, to conclude that the foreign travels undertaken were of minor or no relevance if the development impact is considered.

5.13.2 Training programme and seminars 1981-83.

The general impression is that the course/seminar program has gradually improved and over and above has been successfully carried out. In particular, the course manager for most of the program appears to have performed very well.

All courses and seminars under this second program were located in Indonesia. They were often, and it appears quite favourably, reported in the Indonesian mass media.

The curriculum was worked out by NSA based on proposals made

by PERLA. For a relatively short course/seminar, the curriculum appears to have been relatively well balanced. It was not possible to document the course material used completely. SEACOM, however, has kept files of most of the material. As far as the Norwegian teaching personnel is concerned, it appears to have been of good standard, with some few exceptions that had to do with language or pedagogic ability.

A written statement reporting in the program as envisaged in the contract, was made available to the team only at the time the team concluded its work.

Taking into consideration the urgent and widely felt need for more and better manpower training in the Indonesian shipping sector, the Norwegian program may be said to have fallen short in three respects. Firstly, there has been too little follow-up of former participants, exception made for those who had previously participated in the NSA professional shipping course in Oslo. Secondly, more efforts could probably have been made to adapt teaching, including material to Indonesian conditions. Thirdly, the duration of courses in general should be longer, with the exception of seminars at a high professional level on more specific subjects, meant as "state-of-the-art" and follow-up presentations.

Several informants have expressed the view that the seminars treated only the surface or gave an overview, without sufficient substance. One should not neglect the fact that they were mostly meant to be overviews, not in-depth presentations, nor that the background of participants did not always match the level of the seminars. In a future program a somewhat greater differentiation between basic and advanced training ought possibly to be made.

Transfer of competence would also include training of trainers. Apparently, the Indonesian side never brought up any request for this particular aspect to be more greatly emphasized. With reference to the successful courses undertaken in the Singapore and Jakarta dockyards, and the lack of qualified teachers in the Maritime Academies, the training of trainers concept appears

to have a very considerable potential in improving the standard of manpower training in Indonesia's maritime sector.

5.13.3 Professional Shipping Course

From 1972-1984 a total of twentythree Indonesians have participated in the abovementioned courses organized by NSA. Of these, eighteen were selected from government institutions, three from state owned shipping companies and two from private companies.

The Professional Shipping Course (PSC) is open to applicants from all developing countries. So far 268 persons from 48 countries have completed this course. The objective of the 7 months course is to improve the efficiency of shipping administration, i.e. government bodies, shipping companies, ship agents and port authorities. As only one or two students participated in each course, it is questionable whether such a small number could have any impact on the improvement of shipping administration in the country they represent.

As training of manpower for the maritime industry in Indonesia is a "must" for developing their vast maritime sector, the team strongly recommends that at least four participants be allowed from Indonesia for the course starting in August 1984. As the private sector has a high potential for developing the maritime trade, the team will also recommend that at least two participants be recruited from the private sector.

Some sources indicate that the course structure and content ought to be better adjusted to the needs of developing countries. One should remember that in shipping there are a great number of subjects which have universal relevance and participants have expressed their interest in knowing the operation of maritime administration in traditional shipping countries such as Norway.

Only positive responses have been received from Indonesian informants concerning the Professional Shipping Course. The shipping companies see an opportunity to improve their operation if young candidates are given a chance to enroll.

The PSC is financed directly by NORAD through their budget in the Fellowship Division. Thus no grant funds have been used in this training of Indonesian personnel.

5.13.4 Training of BKI's surveyors in Norway

Six surveyors attended a training programme with DnV from 1978 to 1979. During the building period BKI surveyors as well participated in the dual class of the ships built by NWE. Lastly four surveyors from BKI's off-shore division were sent to Norway for theoretical calculation, construction and inspection of rigs. The program for the last mentioned batch was not quite to their expectation and it proved difficult to adapt the program to their requirements. They agree however, that at the outset there was a communication gap and from the Indonesian side a clear defined requirement was lacking.
BKI expressed their gratitude about the training in Norway and certainly wished more assistance and especially so for the off-shore sector.

5.14 TRAINING PROGRAMMES ARRANGED BY SEACOM (NOK 6.5 MILL)

Introduction

During the grant period a series of seminars were conducted under the sole responsibility of SEACOM. With the exception of one, all were agreed upon during program discussion in Jakarta in February 1981. A summary of these will be found in Appendix VII C. The responsible body for the local administration was the Steering Committee for Inter Island Fleet Development Programme. The intention behind this was Indonesia's wish to organize such courses themselves, which also NORAD (correctly) encouraged. Complete reports of these seminars have been issued by SEACOM and 28 courses were held, with 748 participants. A selection of these, whereof two were specially linked to the intention of the whole Indonesian-Norwegian building programme, will be commented upon.

Ship Repair Training Course in Singapore, 7/78 - 1/80.

This programme was scheduled for Singapore, where a comprehensive shipbuilding industry has been built up through the years, and a

contract was entered into between Keppel Shipyard and NORAD.

The course, having a duration of 6 months' giving training to five batches of altogether 59 participants, was held as scheduled The objective was to improve knowledge and skills in ship repair technology, and participants were technicians from SEACOM and shipyards. A more diversified selection of participants could have been expected as it showed a too strong concentration from two dockyards.

Shipbuilding and Ship Repair Training in Jakarta, 6/81 - 8/82.

A very detailed programme for the above was worked out by SEACOM, and as P.T. Pelita Bahari Dockyard had both the facilities and the manpower to conduct this program, a contract was signed with this dockyard. During a three months period the following participants received their training:

52 in welding engineering
51 in ship repair (hulls) work

When the team visited the dockyard the above was discussed, among other topics, and it was recorded that not only staff from Pelita Bahari participated, but also personnel from some 16 other yards in various ports, in addition to a few from SEACOM and PELNI.

Only three persons failed examination and those on the Welding Engineering Course were issued certificates from BKI and the remainder certificates from SEACOM.

A major part of the course was practical training, conducted also at neighbouring yards.

Instructors were selected from the National Welding Center (BLKL), Pelita Bahari and four other yards.

The total cost including lodging and meals, amounted to some USD 30,- per day per participant and was covered by NORAD in full.

Salvage Engineer Course in Jakarta, 10/81 - 5/82.

Within the abovementioned topics, the following one-week courses were conducted:

Salvage and Underwater Work	Oct/81	34 participants
" " " "	Nov/81	34 "
Underwater Work Technology	Apr/82	38 "
Salvage Supervision	May/82	33 "
		139 participants

Except for the last course, where only national experts lectured, a combination of national and expatriate experts was used.

Conclusion

According to the report, a great variety of topics were covered and the detailed program appears to have been of high professional standard.

The team considers that this type of training, where participants live in their own environment, both socially and climatewise, is of great importance. Local instructors were also used, thereby utilizing their own know-how and skill, and this contributes to self-sufficiency.

Four of the dockyards visited during the evaluation had participants in the courses and two of them stated unsolicited that these courses had improved their personnel's skill and for one yard especially made it easier for them to embark upon the newbuilding of ships.

The courses for Planned Maintenance, Fleet Management, Administration and Survey for Marine Inspectors used Norwegian lecturers.

It should be mentioned that the various courses have not been appraised by NORAD, probably because these had been specially requested by SEACOM. The team concludes however, that the training has been well received by the Indonesians and has no doubt upgraded the competence of participants.

5.15 INDONESIAN AND NORWEGIAN AUTHORITIES PROJECT ORGANIZATION AND PERFORMANCE

Article II in the agreement of 14th May 1976 states that "The Norwegian Agency for International Development (NORAD) and the Ministry of Transport, Communication and Tourism, eq. The Directorate of Sea Communications shall be competent authorities to represent Norway and Indonesia respectively - in matters related to the implementation of this agreement."

The professional responsibility for implementing the Norwegian assistance has been with NORAD's Programme and Project Department, the day-to-day affairs to be handled by the Division for Maritime Transport, Industries and Petroleum (SIO). It seems that this division and their project officers have been delegated a rather independent status in their discussion with the Indonesian authorities and for programming the assistance. This decision on NORAD's side was especially valuable during the first hectic stage of the project (building period in Norway and the sailing of 30 ships to Indonesia) when decisions had to be taken without delay. During the project periods, representatives from SIO made only a few visits to Indonesia and if this was due to limited travel accounts within NORAD, the team much regrets this, feeling that project appraisals on site and program discussions should have been given higher priority. SIO has had only three senior project officers during the whole period and this continuity has contributed to the good results.

According to the agreement Indonesian Authorities were to be represented by SEACOM. Having solely one counterpart to deal with had a good effect on building up the relationship.
On the Indonesian side as well, a number of people have been attached to this project over a long period, thus contributing to a great degree of continuity and smoother co-operation.
Indonesian representatives have, although not regularly, visited

Norway for consultation.

The Norwegian Embassy in Jakarta has by and large been kept up to date with the program, but has not been heavily involved in the project. This has not been due to non-commitment from their side, as the team feels that the staff at the Embassy has been very active in seeing that instructions from NORAD were followed up, and they also took a keen and personal interest in the project.

In a project like this, with no NORAD representative present in Jakarta, the team feels that some guidelines ought to have been formulated, stating the role of the Embassy as a co-ordinator, as well as their responsibility for follow-up.

If needed, and if financially possible, one may also consider whether a project officer in Jakarta, attached to the Embassy, should be appointed for a trial period of two or three years.

As has been observed, regular meetings have not been organized. Wise after the event one might say that regular annual meeting ought to have taken place with interchange of status reports and meeting programs. This to be co-ordinated with NORAD's deadline for budget preparations.

5.16 ASSESSMENT OF CONSULTANTS

Consultancy service as described in the Agreement can be summarized as follows:

- Consultants to be contracted by NORAD, but to be approved by SEACOM. Norwegian Tendering Regulation to be adhered to unless otherwise agreed by both parties.

When at all practicable, Tendering Regulations for consultants have been used by NORAD. In some instances for example, Det norske Veritas' surveys of the four passenger ships to be converted, Introduction of Planned Maintenance System and study of Dockyard Training Center, SEACOM appointed/approved Indonesian counterpart consultants. On other occasions such as the

Transmigration Study, this did not materialize, which the study team regretted, seeing the advantage of having local professionals participate. The team fully supports the idea of having Indonesian counterparts in future studies, and also other activities.

That Indonesia was satisfied with the Norwegian consultants is proved by their recommendation that the same companies continue or renew their contracts.

Apart from the Dockyard Training Center, the studies in which Norwegian consultants participated have actually been accepted in the MSDP.

As mentioned in para 5.13, the team considers that the first part of the training for yard personnel was not well prepared, but this was later rectified and improved when a program director was engaged by NSA. The team considers the assignment of a co-ordinator of training programs to be a wise decision. During discussions in Jakarta it was, however, recorded that the poor yield experienced during these initial months were also partly due to lack of communication between the two parties and the absence of a defined program on the part of Indonesia.

Due to the Advisory Team's heavy commitment in P.T. PANN's daily activities, direct assistance to participating shipping companies was possible to only a minor extent. However, the team would like to emphasize the need for advisers' capacity to be also directed to shipping companies under P.T. PANN's umbrella to assist in up-grading their managerial skills and routines.

It should be emphasized, that Indonesia being an unknown country for most of the consultants, teething problems are always to be expected in the initial period. By now there are a group of consultants, knowing Indonesia and its maritime environment, who could be used for future engagements.

By and large, the team considers that consultants have performed well and that competent personnel were put on the various jobs designated.

5.17 PLANS AND BUDGETS

As was noted under chapter 1, NORAD was not given much time to plan this programme and to study the various components of its content. Due to this a time schedule for expenditures would therefore be very uncertain. The grant of NOK 70 mill. was tentatively allocated, with payment of NOK 25 mill. during 1976 and the remaining NOK 45 mill. in 1977.

This was indeed very optimistic and during the whole period a series of delays were encountered, whereby the Cash Flow Budget had to be re-scheduled. As yearly budget could only be transferred to the following year, a series of re-allocations in the Foreign Ministry's budget had to be undertaken. Budgets from SEACOM often expressed in terms of USD showed discrepancies when compared with actual figures. This was, among other reasons, due to the Indonesian Government's monetary policy since November 1978 of allowing the Rupiah to float against foreign currencies. In this connection it may be mentioned that the variance was as follows:

- Before November 1978	-	1 USD	=	RP	415
After " "	-	1 "	=	"	625
April 1984	-	1 "	=	"	985

The grant programme had a very slow development. At the outset it was expected that the project could be finished in two years, but this now looks more like nine years. There are several reasons for the delay, the main ones being:

- Delivery of ships was delayed by some 4 months according to the original plan. The last ship was actually taken over in Jakarta in the autumn of 1978.

- Procedure for procurement of a second-hand passenger/cargo vessel started in 1977 and the purchase took place in May 1981.

- The plans for 6 ships to be built in Indonesia were never executed.

The allocation of funds for these activities has, no doubt, tied grant money which could otherwise have been reallocated at an earlier date.

In February 1981 the last programme meeting took place in Jakarta, when the use of the remaining funds of NOK 13.6 mill. was agreed upon. At that time USD 0.5 mill. was allocated for shipbuilding supervisors, for execution of the shipbuilding program in Indonesia under the Norwegian Export Credit. This was, at a much later time, eventually cancelled. Apart from this activity the remaining items were implemented according to plans, and budgets adhered to. Additional activities, such as:

- Implementation of Maintenance Systems,
- Implementation of SFI Group Systems,
- Transmigration Study,
- Veritas Pilot Design/Control Systems,
- Prolongation of IMO advisers,

were agreed upon in 1982, replacing the funds for shipbuilding supervisers. All are now finalized, except for the engagement of P.T. PANN advisers and the introduction of the maintenance system.

The team does not see any disadvantage of the heavy delay in the program which in due course contributed to better planning for activities adapted to Indonesia's priorities in the sector.

The team will underline that it seldom happens to any yard, technical consultant, owner or agent to bee involved in a ship delivery scheme of this magnitude. Their coordinating task which also entailed NORAD must be regarded as exeptional.

6. GENERAL CONCLUSIONS AND FUTURE COOPERATION

6.1 ASSESSMENT OF THE EFFECTS AND DEVELOPMENT IMPACT OF THE AID PACKAGE AND THE PROGRAMME

As can be gauged from the conclusions in the preceding chapters on the procurements of ships and the grant program, the conclusion seems warranted that the 1976 Indonesian-Norwegian Agreement has led by and large to successful results and that the overall development impact of the programme has been positive. This also goes if the grant programme is considered on its own merits.

The ships delivered from Norway to Indonesia under the 1976 Agreement have among other things had the following development impact:

- increased regularity in shipping services and less irregularity in the delivery of goods (550,000 tons are lifted annually, being some 10% of RLS transport volumes)
- Safer condition for deck passengers (an average of 35,000 passengers per year have been accommodated on board)
- The tugboats have proven valuable for strengthening the fleet of service ships.

The ships procured in Norway have participated in a process of modernization that is probably both necessary and desirable. Their relative contribution is however, limited as in numerical terms they represent only 5% of the Inter-Island Fleet. Their share is considerably larger in terms of tonnage and carrying capacity.
Their contribution is even more favourable as the ships were delivered on relatively concessional terms, thus reducing the drain on hard-earned currency.

The development impact of the ships would no doubt have been even greater if they had operated within an economically more responsible framework. As it turned out, they have had to compete with very old and written-off vessels with minimal overheads. Although economically questionable, this fact

stems from the deep-seated Indonesian policy of conserving traditional forms of production and smaller private and capital weak shipping companies.

The ships' design had its strong points in terms of versatility Changes in design were to be preferred in many respects. New vessels with old technology are too expensive without significantly improving productivity to be competitive with old and low-cost vessels.

A total of NOK 18,6 mill was spent on conveyance of ships, bunkers and on freightcharges for tugs. This had no development effect, but should be regarded as a kind of subsidy of the total building price.
It had, however, some advantage in that the ships during a voyage of 10,000 m.m (40 days), were thoroughly tested technically.

One of the major reasons why the grant was voted in 1976 was the agreement that 6 cargo vessels were to be built at Indonesian yards. These vessels were, however, not built. The explanation appears to be found in one of three factors: Indonesian yards were not found to be competent enough; the number of vessels was too small to offer economies-of-scale conditions; and vessels were too expensive. The team concludes that the last mentioned factor probably offers the best explanation.

The experience with the maintenance system introduced to the 5 ships is so far not known as the final report will not be ready untill June 1984 and much will depend on users motivation. It will give some useful guidelines, but have to be followed by a more in-depth study as outlined in Appendix VIII.

The use of the SFI Group System will only when implimented on a broader scale have any wide effect on standardization.

Since 1977 a financial and technical advisor have been recruited and a large portion of the funds have been used for this support to P.T. PANN. A significant contribution to the development of this government corporation is expressed by Indonesia giving top priority to continued recruitments.

Studies of Dockyard Training Center and Diving School have not had any development effect. If however, established back in 1979/1980, the industry's urgent need would have been in process of fulfilment.

The outcome of the Transmigration Study is uncertain, being still under consideration by SEACOM.

As for the rest of the technical aid package the concentration on maritime training and education fits well with Indonesia's needs. The courses and seminars held have been very well rated by most informants, be it participants or outside observers. The favourable judgement extends to the themes chosen and taught as well as to the manner in which teaching took place.

Some signs indicate that officials benefitted from courses/seminars to the detriment of private sector representatives, including shippers. Although some say that teaching should have taken on a more locally-orientated hue, others point to the many universal trails in shipping and the fact that many instructors have had extensive experience from developing countries. It seems clear, however, that those managing seminars could work even more closely with the Indonesian authorities so as to prepare the ground well in advance of each course/seminar. It seems equally clear that in a future Indonesian-Norwegian cooperating setting, teaching should use seminars to a limited extent.

Maritime training in Indonesia with assistance for Norway should move rather in the direction of longer courses, "training of trainers" and on-the-job-training. Educational aids should be adapted to Indonesian needs.

6.2 THE GENERAL PRINCIPLES OF NORWEGIAN DEVELOPMENT ASSISTANCE AND ASSISTANCE TO THE INTER-ISLAND SEA TRANSPORT PROGRAMME

The general principles of Norway's development assistance policy emphasize:

- that assistance should improve the life standard of the poorest population

- that development assistance should thus be channelled primarily to those countries that pursue a socially responsible development policy

- that the low income countries (LCs) should be given priority

- that assistance is given on a grant basis.

In addition, Norway's limited resources have required that development assistance be concentrated on a small number of countries. This, however, has not applied to some few sectors where Norway is considered to have special competence as regards technical assistance, such as shipping.

More specific guidelines that have been in focus over more recent years are:

- that the assistance should be targeted on particularly affected categories and groups, such as women, children and the unemployed or marginally employed

- that the assistance should as much as possible be adapted to local conditions by making use of local inputs, transferring competence, being labour-intensive, etc.

- that economic cooperation involving Norwegian business firms should be strengthened.

In Norway's development assistance policy, a principle of long standing has been not to tie aid. If tying of aid is considered, and in order that the assistance offered should be economically efficient for both sides, prices for the goods and services offered by Norwegian parties should not be more than 10% above the price which the recipient country would have had to pay for the best available offer under conditions of international bidding

As regards the Indonesian-Norwegian project, it is the opinion of the team that it has met most of the main criteria satisfactorily. The somewhat ad hoc decision-making process that initiated the project on the Norwegian side has apparently not affected the implementation of the grant programme. In large

measure this is due to a very professional attitude on the part of responsible Indonesian authorities, and of Norwegian personnel involved.

In the following the team discusses in some detail how and to what extent the various criteria set down by Norwegian authorities have been met. As a general overview, and as far as the team has been able to assess these questions properly, the team observes:

- the Inter-island programme is an important condition for an equitable distribution of economic growth and for the economic integration of Indonesia. Successful assistance to this programme therefore is obviously a contribution to socially responsible development, all the more since the main beneficiaries of inter-island shipping are marginal, remote and deficit areas.

- Indonesia was at the time of the conclusion of the 1976 agreement classified as a low-income country. After the World Bank's classification of her as a middle-income country, on the face of it she might appear to fall outside the category of countries given priority according to official Norwegian criteria. On the other hand she enjoys a lower income per capita than several Norwegian main-partner countries and in addition she had a more equitable distribution of income than most main-partner countries. Apart from this, as has been pointed out in previous chapters, most of Indonesia's income is of very recent origin and is classified as state income which has been used to sustain a very high investment ratio, thus not having so far resulted in a considerable increase in consumption. The poverty burden of the past is thus shown in the fact that Indonesia still has very underdeveloped facilities even compared with the lower-income countries in South Asia in most social and educational sectors, in spite of rapid progress recently. This is in no small degree due to colonial neglience. The recent and fragile nature of the new state income is further shown by the fact that for all practical purposes the bulk of Indonesian people still live in the countryside. Perhaps as much as 80% of the population resides in the rural areas. The picture is even more bleak for those remote deficit islands that will

benefit most directly from an upgrading of inter-island services.

- The shipping/maritime sector is still retained as an area where Norwegian technical assistance may be offered on grant basis in particular cases.

- The team has not been able to assess in an adequate manner whether the Norwegian programme contributed to a labour-intensive policy or not. It can, however, be tentatively concluded that the delivery of vessels with their technological standard did not systematically affect this particular factor in either way.

- The position of women and children is probably affected positively to the extent the vessels contribute to a more efficient transport of important goods; the team, however, has not been able to assess in detail the effect of the programme on these particular target groups. It can be asserted that women in Indonesia, by having a relatively strong position, now automatically benefit from development in general and thus also from the services offered by inter-island vessels.

Earlier chapters in this report have cited the tremendous need for maritime training in Indonesia - also in the Five-Year Plan 1984-89. The Norwegian grant program has no doubt operated in a priority field of human resources development. One should not neglect the private sector as a subject of training. People from private shipping companies benefit in many respects from better incentives, greater employment continuity and better expertise.

To sum up:
The aid package as well as the total program has had a favourable development impact - and the need for further development cooperation in the maritime sector, particularly as regards inter-island and maritime training, is still great and well documented. As regards the Indonesian authorities, it seems warranted from previous chapters to conclude that in a comparative Third World perspective they are pursuring a development-orientated policy and a policy of social justice.

Indonesia is no longer among the poorest developing countries. But as a Lower-Middle Income country the dimensions of poverty in Indonesia, althoug declining, remain overwhelming for the majority in traditional agriculture and on the thousands of inaccessible islands.

It is hard to imagine many developing countries with greater dependence on maritime services and thus on maritime assistance, than Indonesia. Norway, on the other hand, is specially qualified to give technical assistance in the field of sea transport. Neither should one discontinue an initiated program and thus prevent it from being fully and satisfactorily implemented.

In a more general North-South perspective Norway has demonstrated that increased cooperation in the shipping sector between developing and industrial countries is a development which Norwegian shipping should be well equipped to meet.

Present Norwegian Policy has been that aid within the shipping sector, as has taken place within the framework of Norway's overall development aid programmes to developing countries, should be intensified and extended. To the extent that the developing countries themselves wish to build up their own national merchant fleets, Norway should, as a shipping nation, be in a particularly well placed position to provide effective assistance at technical and administrative levels.

In line with the provisions of the UN Development Strategy for the Second Development Decade, Norwegian aid in the shipping sector has included concentration on port development, maritime training institutes, coastal traffic and the arrangement of training courses for administrative personnnel from developing countries. Though these sectors must in future continue to be given high priority, Norwegian assistance and efforts in cooperation should to an increasing extent be directed toward the build-up and operation of the developing countries' own merchant fleets according to official policy. In this connection the following forms of aid are particularly pertinent:

- Technical assistance to the shipping companies of developing countries in building up an efficient administrative apparatus.

- Technical assistance for the organization of official shipping administrations. In this connection public officials from government administrations in the developing countries should be given facilities for studying Norwegian shipping administration.

- Extended cooperation at shipping company level for Norwegian investments in developing countries in accordance with the aspirations of these countries.

- Financial assistance to developing countries for the purchase of new and second-hand ships.

- Training of crew for the operation of such ships.

6.3 OUTLINE OF FURTHER ASSISTANCE

Norway ought to respond favourably to Indonesia's request for further technical assistance. The request, concerned mainly with seminars of the state-of-the-art-type, could usefully be retained as part of the future programme but should perhaps become a minor part.

The Major part of the programme ought to be related to present efforts in Indonesia to implement the Maritime Sector Development Programme and within the MSDP the team propose following assistance:

Ships Repair and Maintenance:
- Study of Preventive Maintenance System for Ships

Navigational Aid and Telecom Improvement
- Norwegian Expertise

Maritime Safety Improvements
- Norwegian Expertise

Manpower Development and Training
- Marine Academies
- BKI and SEACOM
- Dockyard Training Programme
- Seminars

Maritime Industry and Fleet Development
- Technical Assistance to P.T. PANN
- Technical Assistance for Steering Committee of MSDP
- Study of Conversion of Log Carriers - Bulk Transport

The team has given much thought to the Outline for Future Assistance, considering it advisable to give a certain amount of detailed information which may assist in formulating the future programme.

The programme is based on a four-year period starting 1985. Realizing that time is required for decision-making in Indonesia and Norway, agreement negotiations, and programming, the Cash Flow Chart below, will probably have to be postponed some 6 months.

Special attention is drawn to the studies of Maintenance of Ships and Conversion of Log Carriers, these being urgently required. These the team assumes will be covered within present grant or other possible sources within NORAD's budgets.

It is suggested that the cost of surveyors from BKI be covered under Fellowship Division's 1985 budget and lastly that the Assistance to the Steering Committee be funded under the World Bank's shipping project.

The team stresses that emphasis should be put on technical assistance that transfers competence to Indonesian personnel and institutions. The aim is to make these capable to take over, as early as possible, functions which foreign technical experts are at present performing. In consequence, the team recommends that the following principles be laid down for future assistance:

- That Norwegian assistance be directed towards building upon existing institutions with a view to improving and upgrading their competence.

- That software assistance be given priority over delivery of hardware.

- That special emphasis be put on middle management and on vocational training.

- That the principle of "counter-part" training be applied as much as possible.

- That on-the-job training be emphasized.

The highly integrated nature of the MSDP concept also requires an integrated approach to technical assistance programming. This applies to the way the programme is both planned and executed by Norwegian and Indonesian Institutions.

The team recommends that future activities in the field of manpower development and training should build mainly on existing institutions. This offers maximum opportunities of maintaining and developing an integrated education system with maximum spread effects and lowest possible costs. In this connection the team suggest that the number of Indonesian participants at the Norwegian Shipping Academy be increased to 4 per year. (1:1 Official: private sector.

The team's attention has further been drawn to a number of development cooperation activities which seem worthy of further study by Norway but which the team has neither felt competent to recommend nor had the time to assess properly:

- assistance to fishing cooperatives in the remote Eastern Indonesia in improving production performance and improving cooperative control of fishing distribution, including direct market access.

- assistance to small, traditional wooden boats in order to upgrade technology and safety by relatively simple and cheap means.

- assistance in establishing an offshore training center.

- assistance in improving transport for transmigrational purposes.

- support to general vocational training which would also indirectly improve performance in maritime activities.

- assistance to a diving school.

In addition to development cooperation, the future programme should take into due consideration the general intercourse between Indonesia and Norway, particularly in the shipping sector, including Norway's general policy in shipping matters. In this respect the Indonesian-Norwegian working group of officials to be established in the near future seems an apt forum for exchanging views of common interest. The Ministry of Development Cooperation should naturally participate in the group.

In order to keep abreast of maritime and development efforts in Indonesia, Norway ought to consider whether the present observer status in the IGGI be changed into membership.

To ensure administrative coherence, one ought to establish proper project guidance both in NORAD and Indonesia in an optimal way. If needed and if financially possible one should consider whether a project officer in Jakarta, attached to the Norwegian Embassy, should be appointed for an initial trial period of two to three years.

In order to ensure continuity between the 1976 grant program (soon to end) and the future program, efforts ought to be made to bridge the gap by flexible means of financing.

CASH FLOW CHART
(NOK MILL.)

First Priority	1985	1986	1987	1988	Total
Marine Academy	2,0	1,1	0,4	0,5	4,0
Seminars	1,0	1,0	-	-	2,0
Marine Safety	2,5	2,4	-	-	4,9
Advisors P.T. PANN	3,2	3,1	-	-	6,3
	8,7	7,6	0,4	0,5	17,2
Second Priority					
Dockyard Training	1,5	1,5	-	-	3,0
Seminars		-	0,7	0,8	1,5
Navigational Aids	0,3	-	-	-	0,3
Marine Safety	-	-	2,3	-	2,3
Advisors P.T. PANN	-	-	3,1	3,3	6,4
	1,8	1,5	6,1	4,1	13,5
Grand Total	10,5	9,1	6,5	4,6	30,7

Top priority (1984)		
Study Maintenance of Ships	NOK	250.000,-
Study of Conversion of Log Carriers, Bulk Transport	NOK	1.160.000,-
Total	NOK	1.410.000,-
Fellowship Division (1985)		
Fellowship BKI		-
World Bank (1984)		
Assistance to Steering Committee		-

TERMS OF REFERENCE

FOR THE EVALUATION OF NORWAY's ASSISTANCE TO THE INTER ISLAND SEA TRANSPORT SECTOR IN INDONESIA

I Background

In connection with a commercial delivery of 20 coastal transport vessels and 10 tug boats to Indonesia from Norwegian yards, NOK 70 million was granted from the Norwegian Government under an agreement signed on 14 May 1976. Administrative responsibilities for the implementation of the grant was commisioned to the Directorate General of Sea Communication (SEACOM) on the Indonesia part, and to the Norwegian Agency for International Development (NORAD) on behalf of Norway.

By 1980, when all the ships had been delivered, approximate NOK 56.4 million of the grant had been spent on the following activities.

a) Building supervision at the yards, trail tests etc;

b) Transport and delivery of ships to Indonesian ports;

c) Cofinancing with the World Bank of a second-hand passenger/ cargo ship;

d) Delivery of spare parts;

e) Maritime training and technical assistance related to Inter-Island fleet development in Indonesia;

f) Technical assistance to the Classification Institute of Indonesia (BKI) and to the State Development Bank;

g) Feasibility study on a dockyard training centre.

According to the original programme, Norwegian credits were available for a related building programme at Indonesian yards.

Indonesia did not make use of these funds, and the remaining part of the grant (NOK 13,6 million) was rescheduled by SEACOM and NORAD in 1981 and again in 1982, for the following activities:

a) Training courses in Indonesia implemented by the Norwegian Shipping Academy

b) Training course administered by SEACOM

c) Maintenance systems for shipping companies and ships

d) Introduction of planning systems for yards

e) Realization of a transmigration transport study

f) Delivery of the Veritas Pilot design/control system to BKI

g) Indonesian delegations abroad

For 1984 and 1985, NOK 3,5 million is still available, mainly intended for the financing of economic and technical experts to P.T.PANN and to complete maintenance systems of shipping companies and ships.

Indonesia has forwarded a request to Norway for further assistance to training. With the view of assessing further assistance, a project evaluation shall be conducted.

II Evaluation team - mode of work

The evaluation team is composed as follows:

Terje Hveberg, Naval Architect and Engineer
Indonesian member, Inter Island transport
Indonesian member, Transfer of technology
Leif Hald, Shipping Consultant
Svein Aas, Social Scientist
Helge Hveem, Political Scientist

Prior to the start of the field work in Indonesia, collection of information in Norway will be done through document studies and interviews.

In Indonesia, the team will visit major project sites, review the various activities of the project and interview key persons who have been related to the project and have relevant information of interest to the evaluation. The evaluation will be carried out in close collaboration with Indonesian authorities and the Norwegian Embassy in Indonesia. The team will, however, be independent.

Following preparatory activities in Norway, evaluation work in Indonesia will take place from March 19th to April 7th, 1984.

III Tasks of the evaluation team

1. How the project came about

A study of the decision-making process that led to the initiation of this project will be made.

2. Relevance of project assistance

The evaluation team shall:

2.1 Make a brief assessment of the relevant aspects of Indonesia's development policies as compared to the main criteria for the selection of partner countries for Norwegian development assistance.

2.2 Discuss the relevance and importance of inter island sea transport within the context of economic and social development plans and needs in the country.

3. Inter Island transport sector

The evaluation team shall:

3.1 Discuss the national plans for the development of the inter island transport sector (sea transport and yards).

3.2 Inform on the national and external finance and assistance made available to this sector.

4. The Procurement of Ships

The evaluation team shall:

4.1 Make a review and discuss the planning, building and the delivery of the ships, and the participation of authorities, builders and consultants.

4.2 Discuss the design of the delivered ships with regard to intended trade and routes and the choice of technology, inter alia adaptability to local conditions.

4.3 Describe how the authorities and users assess the ships delivered, and whether there are problems in their operation and maintenance.

4.4 Describe the technical condition of a selected number of the ships delivered.

5. The Gran Programme

The team shall consider the relevance and adequacy of the various activities carried out under the grant, with particular view to:

5.1 Assess the usefulness of the various transfers of equipment, systems, consultancies and training, and the adaptability to Indonesian conditions.

5.2 Review the performace of Indonesian and Norwegian authorities in preparing and monitoring the activities.

5.3 Assess the performance of the various consultants in the implementation of their activities.

5.4 Determine whether, by and large, plans were followed and budget adhered to, and suggest likely reasons for possible important discrepancies.

6. General conclusions and future cooperation

6.1 The evaluation team is requested to give a comparative assessment of the actual and potential effects and development impact of the various elements of the aid package, as well as of the programme as such.

6.2 On the basis of these conclusions, the problems and importance of the sector, and the general principles for Norwegian development assistance, the team is also asked to discuss the request for further Norwegian assistance to the inter island sea transport sector in Indonesia.

6.3 On the basis of the request or otherwise, considerations as to the objectives of further assistance should be given. The team should also indicate an outline of composition and cost of a program.

IV Reporting

A draft report containing main conclusions and recommendations shall be finished while the team works together in Indonesia. A final report is to be submitted to the Royal Ministry of Development Cooperation within one month after the termination of field studies in Indonesia, for further comments from all the parties involved in the project.

Helge Kjekshus
Head, 2. Planning Division
Royal Ministry of Development Cooperation

BIBLIOGRAPHY:

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- Reports from Agro Economic Survey
- Documents from Inter-Governmental Group on Indonesia (IGGI)
- Reports from the World Bank
- Reports from the IMF
- Asia Yearbook 1980, 1981, 1982, 1983
- Bulletin of Indonesian Economic Studies (BIES)
- Far Eastern Economi Review
- Indonesian Newsletter, Hong Kong
- The Maritime Sector Development Program (MSDP), Ministry of Communications (juli 1983)
- Documents of the MDSP
- Reports/Files/Documents on the 1976 Indonesian/Norwegian Agreement from the Norwegian Ministries involved

INSTITUTIONS VISITED AND/OR WHOSE REPRESENTATIVES HAVE BEEN INTERVIEWED BY THE EVALUATION TEAM

INDONESIA

1. Directorate general of Sea Communications (SEACOM)
   - Leadership
   - Department of Research and Development
   - Department of Marine Safety
   - Department of Sea Traffic
   - Department of Education and Training
2. The Indonesian State Inter-Island Company (PELNI)
3. The State Leasing Company for Ships (P.T.PANN)
4. The Indonesian Development Bank (BAPINDO)
5. The Indonesian Classification Bureau (BKI)
6. SEACOMM - Surabaya Branch, Java
7. SEACOMM - Palembang Branch, Sumatra
8. Dockyards:
   - Perikanan, Surabaya
   - Pelita Bahari, Jakarta
   - Dumas and Dock Surabaya, Surabaya
   - Dok Tanjung Priok, Jakarta
9. Shipping companies:
   - Nusa Tenggara, Surabaya
   - Meratus, Surabaya
10. Marine Academy, Jakarta
11. Marine Academy, Surabaya
12. Governor and Secretary Wilaya of the province of Nusatenggara Timor, Kupang, Timor
13. UNDP, Indonesia Office
14. World Bank, Indonesia Office

15. P.T. Johs. Larsen, Royal Norwegian Consulate General, Jakarta

16. Royal Norwegian Embassy, Jakarta
    - Present and former staff

17. Bank Indonesia, Palembang Office

18. Jakarta Lloyd, Hamburg Office

.

NORWAY

1. Royal Norwegian Ministry of Foreign Affairs
   - present and former staff
2. Royal Norwegian Ministry of Trade and Shipping
   - present and former staff
3. Royal Norwegian Ministry of Development Cooperation
4. Norwegian Agency for Development Cooperation (NORAD)
   - Shipping Division, present and former staff
   - Private Sector Advisor, present and former staff
   - Land Division
5. North West Engineering (NWE)
   - former staff
6. Eksportfinans
   - present and former staff
7. Norwegian Institute for Ship Research (NSFI)
8. Shipdeco
9. ESCAP
10. The Norwegian Shipping Academy
    - present and former staff
11. A/S Leadership
12. Den Norske Creditbank (DNC)
13. ISOT
14. Shipping Research Services (SRS)
15. Det norske Veritas (DnV)
16. Ulstein Hatlø
17. Aukra Bruk
18. FAFO

AGREEMENT

between

The Government of the Kingdom of Norway

and

The Government of the Republic of Indonesia

regarding

co-operation with regard to the Inter-Island Fleet Development Programme of Indonesia.

- - - - -

The Government of the Kingdom of Norway (hereinafter referred to as "Norway") and the Government of the Republic of Indonesia (hereinafter referred to as "Indonesia"), in pursuance of the Exchange of Letters and Memorandum of Understanding signed by representatives of Norway and Indonesia on the 23rd day of February 1976, concerning co-operation with regard to the Inter-Island Fleet Development Programme of Indonesia, desiring to co-operate in the promotion of the said programme, and thereby strengthen the friendly relations existing between Norway and Indonesia,

have agreed as follows:

Article I
Scope

This Agreement sets forth the procedures for the provision of technical assistance, consulting services and financial assistance to certain components of the

Inter-Island Fleet Development Programme of Indonesia (hereinafter referred to as "the Programme"), outlined in the Annex to this Agreement.

Article II
Co-operation and Administration

1. Norway and Indonesia shall co-operate fully to ensure that the purpose of this Agreement will be accomplished. To that end each Party shall furnish to the other all such information as it may reasonably require pertaining to the Programme.

2. In matters relating to the implementation of this Agreement the Norwegian Agency for International Development (NORAD) and the Ministry of Transport, Communication and Tourism, cq. Directorate General of Sea Communications (PERLA) shall be competent authorities to represent Norway and Indonesia respectively.

3. The consulting services referred to in the Annex will be contracted by NORAD and be responsible to NORAD for the conduct, execution and quality of the services. It is understood that the consultants to be contracted shall be approved by PERLA.

Article III
Obligations of Norway

1. Norway shall, subject to Parliamentary appropriations, provide a financial Grant not exceeding Norwegian Kroner 70.000.000,- (N.Kr. - seventy million) (hereinafter referred to as "the Grant") for the financing of the components of the Programme outlined in the Annex.

2. The funds to be made available under this Agreement will be disbursed by NORAD directly to contracting partners and utilized to cover:

i) The costs in connection with technical assistance, including consultancy services referred to in Article II above,

ii) The costs in connection with the sailing of ships from Norway to Indonesia, cfr. Para 2 in the Annex.

iii) The costs in connection with the purchase etc. of one second-hand passengers/cargo ship, cfr. Para 3 in the Annex.

iv) The cost of training including transportation and living allowance for Indonesian personnel.

v) Certain local expenditures related to the technical assistance to be agreed upon, such as housing, communication and transportation.

3. Norway is obliged to adhere to the Norwegian Tendering Regulations when consultancy services are contracted, unless otherwise agreed by both parties.

4. Norway shall furnish to Indonesia quarterly, as soon as possible after the end of each quarter, reports on the expenditure incurred by Norway in accordance with Para 2 of Article III.

5. Whenever it shall be necessary for the purposes of this Agreement to determine the value of any other currency in terms of Norwegian Kroner, such value shall be determined by Norway on the basis of the current market selling rate, and if no such rate should exist, such rate as Norway shall reasonably determine after consultations with Indonesia.

Article IV
Utilization of the Grant. Priorities

1. The Annex to this Agreement sets forth the priorities for the utilization of the Grant.

The Grant shall first and foremost be earmarked for the implementation of components 1, 2 and 3 and 4 in the Annex. To this end a plan for the allocation of the Grant based on project descriptions and cost estimates shall be worked out by the two Parties within two months from the date of the signing of the Agreement. This plan should be reviewed in light of the progress of the planning and implementation of the various components.

2. If, however, the total expenditure to implement all the components outlined in the Annex should exceed the limit of the Grant, Indonesia should bear all costs that may be required over and above the Grant, for the successful completion of the Programme.

Should the total expenditure to implement the Programme be less than the Grant, Norway and Indonesia shall jointly agree as to the utilization of available funds towards other projects within the Inter-Island Fleet Development Programme.

Article V
Obligations of Indonesia

1. Indonesia shall bear all costs that may be required over and above the Grant for the successful completion of the Programme, cfr. Article IV.

2. Indonesia shall provide free of charge the facilities and services in Indonesia which may be required for the successful implementation of the Programme, i.e. interpretation/translation services, clerical assistance, office space, etc.

3. Indonesia shall afford the Norwegian personnel who will serve in Indonesia for the implementation of the Programme the same privileges as are applicable to experts on mission for the United Nations.

Indonesia shall be responsible for dealing with any claim which may be brought by third parties against the Norwegian experts and shall hold them harmless in any case of any claims or liabilities in connection with the execution of a task assigned to them under this present Agreement. The provision shall not relieve any expert from liability for any criminal, fraudulent act or gross negligence.

Article VI

Disputes. Entry Into Force. Termination

1. If any dispute arises relating to the implementation or the interpretation of this Agreement there shall be mutual consultations between the Parties with a view to secure a successful realization of the purpose of this Agreement.

2. This Agreement shal enter into force on the date of its signature and will become effective after and subject to Parliamentary appropriations as referred to in article III. However, the Agreement will not become effective unless the Financial Agreement and the Shipbuilding Contracts referred to in the Memorandum of Understanding of 23 February 1976 become effective.

The Agreement shall terminate when the two Parties have fulfilled the obligations arising from it.

Notwithstanding the preceeding paragraph Norway shall be entitled to terminate this Agreement if Indonesia should fail to meet her obligations laid down in the above-mentioned Financial Agreement.

In witness whereof, the undersigned, being duly authorized thereto by their respective Governments, have signed the present Agreement in two originals in the English language.

Done in Jakarta this ..... day of May 14. 1976.

For the Government of
the Kingdom of Norway

For the Government of
the Republic of Indonesi

The Government of the Kingdom of Norway and The Government of the Republic of Indonesia regarding co-operation with regard to the Inter-Island Fleet Development Programme of Indonesia.

Co-operation between Norway and Indonesia with regard to the Inter-Island Fleet Development Programme of Indonesia

A Memorandum of Understanding has been signed by representatives of Norway and Indonesia on the 23rd day of February 1976.

The Memorandum refers to:

- a Financial Agreement between the Government of Indonesia and Eksportfinans (Norway).

- contracts between P.T. PANN (Indonesia) and North West Engineering (Norway) for the construction of ships.

- a contract between The Directorate General of Sea Communications (Indonesia) and North West Engineering (Norway) for the construction of tug-boats.

An exchange of Letters took place between representatives of Norway and Indonesia on the 23rd day of February 1976. The letter states that "the Government of the Kingdom of Norway is prepared, subject to Parliamentary appropriations, to make available to the Government of the Republic of Indonesia a grant not exceeding N.kr. 70 mill. to be used exclusively for the financing of components of the Inter-Island shipping project, such as costs in connection with the delivery of ships to be built in Norway, supervision and inspection of ships in Norway, the purchase of one secondhand passenger vessel, various technical expertise, comprising the Classification Institute of Indonesia (BKI), the State Development Bank (Bapindo), the elaboration of safety rules and tuition and other projects as may be mutually agreed upon by both Governments."

The co-operation between the two countries pertaining to this assistance consists of the following components, which are to be implemented within the limits of the Grant and in order of priority given below:

1. Supervision and inspection of the ships to be built in Norway and Indonesia

PERLA and P.T. PANN are contracting ships to be built in Norway and Indonesia respectively.

PERLA and P.T. PANN will have the overall responsibility for the supervision and control of the building contracts. Norway will assist PERLA and P.T. PANN by contracting and placing at their disposal competent inspectors and other personnel to be agreed upon.

To this end PERLA and P.T. PANN will present to NORAD Terms of References for the technical assistance to be agreed upon. Contracting will be based upon a shortlisting of qualified consultants presented by Indonesia to NORAD for approval.

2. Delivery of the ships

Norway will assist Indonesia in the planning and organizing of the delivery of ships from Norwegian yards to designated ports in Indonesia mainly by Indonesian crew. A competent Norwegian consultant to be agreed upon will be employed to prepare a plan for and assist in the implementation of this operation, which will include inter alia administrative, technical, legal and financial aspects of the operation as well as questions concerning manning of the ships, training of Indonesian crew etc.

3. The purchase of one second-hand passenger/cargo ship

In order to improve the present inter-island passenger service Indonesia wishes to purchase a second-hand passenger/

cargo ship. Specifications for the ship will be presented to NORAD by P.T. PANN. NORAD will in consultation with P.T. PANN employ a competent Norwegian broker to negotiate the deal. Subject to availability and competetive market prices the ship should be of Norwegian registry.

Norway will bear all cost, including broker's fee, necessary repair and refitting to be agreed upon between P.T. PANN and NORAD and the sailing of the ship to Indonesia.

4. Technical assistance to Indonesian yards

A number of ships will be built by Indonesian yards under the Financial Agreement.

In order to strengthen the technical ability and capacity of these yards, Norway has agreed to place at their disposal a number of qualified engineers to be agreed upon.

5. Technical assistance

To develop the maritime sector tehnical assistance will be financed among others for The Classification Institute of Indonesia (BKI), the State Development Bank (Bapindo), and to elaborate safety rules, and to maritime training and others to be agreed upon. Indonesia will present to NORAD a detailed plan for the assistance required, including job descriptions.

The plan will include information concerning the coordination of the assistance outlined above with other technical assistance within the Inter-Island Fleet Development Programme.

Implementation of the assistance through Norwegian or international recruitment to be agreed upon.

APPENDIX V

OVERVIEW OF DISBURSEMENTS
(NOK MILL)

1.	DELIVERY OF SHIPS			
1.1	Supervision (SRS)	76-78	3.0	
1.2	Supervision (BvS)	76-78	0.9	
1.3	Conveyance (PELNI/PANN)	77-78	10.0	
1.4	Bunkers	77-79	3.2	
1.5	Transport of tugs	77-78	5.4	
1.6	Indonesian personnel in Norway	76-80	3.5	
1.7	International travels	76-79	0.4	
1.8	Miscellaneous	77-78	0.8	27.2
2.	PURCHASE OF PASSENGER SHIP			
2.1	Consultants	79-80	0.4	
2.2	Purchase	80	12.2	12.6
3.	COMPLETION TWO SHIPS			
3.1	Completion cost	79	2.1	2.1
4.	SPARES			
4.1	Purchase	80	2.8	2.8
5.	TRAINING			
5.1	Norwegian Shipping Academy	77-80	5.9	
5.2	Norwegian Shipping Academy Hydrodyn.lab.	81-83	3.5	
5.3	Keppel Shipyard, S'pore	78-80	1.5	
5.4	Pelita Bahari, Jakarta	81-82	1.4	
5.5	SEACOM courses, travels	81-84	3.6	15.9
6.	STUDIES			
6.1	Dockyard Training Centre (ISOT)	79-80	0.3	
6.2	Diving School (ISOT)	80	0.1	
6.3	Transmigration (SHIPDECO)	83	0.3	0.7
		Carried forward		**61.3**

61.3

7.	CONSULTANCIES			
7.1	SFT Group System, PMS (NSFT)	83	1.3	
7.2	Planned Maintenance System (NSFT)	83-84	(1.0)	
7.3	Pilot System (DnV)	83-84	(0.4)	2.7
8.	ADVISORS			
8.1	IMO Advisors	78-84	(4.8)	4.8
				68.8

Amounts in brackets are provisional as these activities have not been finalized.

APPENDIX VI

LIST OF ABBREVIATONS

BAPINDO	State Industrial Development Bank
BKI	Indonesian Classification Society
BvS	Bureau voor Scheepsbauw
DNC	Den Norske Creditbank
DTC	Dockyard Training Center
DWT	Dead Weight Ton
ESCAP	Economic and Social Commision for Asia and the Pacific
GE	Guarantee Engineer
IGGI	Inter-Governmental Group on Indonesia
ILS	Interisland Liner System
ISOT	International School of Technology
MSDP	Maritime Sector Development Programme
NSA	Norwegian Shipping Academy
NSFI	Ship Research Institute of Norway
NWE	North West Engineering
PANN	National Fleet Development Corporation
PELNI	State Owned Shipping Company
PILOT	The Norwegian Veritas Desktop Computer Programme
PMS	Planned Maintenance System
PSC	Professional Shipping Course
RLS	Interisland Ships
SIO	Division for Maritime Transport, Industries and Petroleum
SEACOM	Directorate General for Sea Communication
SHIPDECO	Norwegian Shipping Development Company
SRS/FE	Shipping Research Services/Fiskarstrand og Eldøy
TSAR	Maintenance and Spare Parts System

TRAINING COURSES ARRANGED BY NSA 1977/80

Topics	Place	Duration	Course No.	Participant	Participants Organization
1. Offshore Surveyor	Norway	10 mnth	1	3	BKI
2. Hull & Machinery Surveyor	"	10 "	1	10	"
3. Shipbuilding, Repair & Manufact	"	9 "	1	9	Shipyards
4. Radio & Electronic Surveyor	"	7 "	1	3	
5. Ship Measurement	"	6 "	1	3	SEACOM
6. Salvage Engineering	Norw/Germ. Hol/Fran.	2 "	1	2	"
7. Navigation Aid	Norway	6 "	1	1	"
8. Study of Norwegian Maritime Education System	"	5 week	1	2	"
9. Owners Supervision	"	8 mnth	1	5	State shippingcompanies
10. Technical & Nautical Surv.	Holland	6 "	1	3	SEACOM
11. Compass Adjustment	Jakarta	4 week	1	20	"
12. Chartering sales and Purchase, Contracting	"	3 "	2	79	State & private shippingcompanies SEACOM, banks
13. Maritime Law	"	4 "	1	40	As for 12 plus University of Jaka
14. Marine Insurance	"	3 "	1	35	State & private shippingcompanies Insurance companies, banks and SEACOM
T o t a l			15	215	

TRAINING COURSES ARRANGED BY NSA 1981-82

	Topics	Place	Duration	Course No.	Participants	Participants Organization
1	Fleet Management	Jakarta	2 week	1	35	SEACOM Shipowners
2	Port Users	Medan	3	1	40	SEACOM Govern. Agencies Agents Ship owners, Trading Comp.Labour org.
3	Fleet Management	Jakarta	2 "	1	32	SEACOM, Shipowners
4	Conference Chief Executives	"	1 "	1	38	SEACOM, Shipowners, yards
5	Shipyard Operators	"	2 "	1	35	SEACOM, yards, Marine Academy, Port Adm.
6	Maritime Law and Insurance	"	2 "	1	32	SEACOM, Marine Academy, Shipowners, Agents
7	Fleet Management	"	2 "	1	32	SEACOM Shipowners
8	Conference Chief Executives	"		1	38	SEACOM Shipowners
9	Port Operation	Padang	3 "	1	29	As for 2
10	Shipyard Operation	Jakarta	2 "	1	35	SEACOM, Yards, Min of Techn.
11	Port Operation	"	3 "	1	39	shipowners, Techn.Consultants As for 2
	Total			11	385	

TRAINING COURSES ARRANGED BY SEACOM

Topics	Place	Year	Duration	Course No.	Participants	Participants Organization
1.Ship repair training	Singapore	78-80	6 mnts	4	59	SEACOM, Shipyard Technicans
2.Shipbuilding & Shiprepair	Jakarta	81-82	3 "	5	103	Shipyard workers
3.Shipbuilding Management	Japan	81	2 "	1	3	Shipyard Managers
4.Salvage Seminar	Jakarta	81	2 week	2	64	SEACOM, Governm.agencies, Private Comp.
5.Underwater Work Technology	Jakarta	82	1 "	1	38	" " " " "
6.Salvage Supervision	Jakarta	82	1 "	1	33	SEACOM
7.Planned Maintenance	Jakarta	82	2 days	4	145	SEACOM, Dockyards, Shipowners, BKI, Banks, Suppliers.
8.Fleet Management	Ujung pandang	82	1 week	1	30	Maritime district, Shipowners, Shippingrelated Industry, Fisheries, Universities, Government agencies
9. " "	Surabaya	82	1 "	1	40	
10. " "	Manado	82	1 "	1	43	
11. " "	Ambon	82	1 "	1	39	
12. " "	Medan	82	1 "	1	39	
13.Shipping Management, Finance	Cardif	82	2 "	1	15	SEACOM, Shipping Companies.
14.Logestic Support	Sawangan	82	2 "	1	52	SEACOM, Shipping, Dockyard Maritime District, Mar.Academy.
15.Administration & Survey for Marine Inspectors	Jakarta	82	2 "	1	35	SEACOM, Martime District
16.Seafarers Training	Singapore	82-83	6 "	2	10	Instructors Marine Academy
Total:				28	748	

APPENDIX VIII

OUTLINE FUTURE ASSISTANCE

STUDY OF PREVENTIVE MAINTENANCE SYSTEM FOR SHIPS (PMS)

General

For further clarification of this important study as an instrument in the more economical and safer operation of ships, reference is made to para 5.7.

(It should be noted that an initial approach to improve maintenance on board has already been made with five different ships in a pilot project. The report of this is, however, not yet completed, but is due in June 1984.)

SEACOM has requested the above study, with the knowledge in mind that Norway has been a pioneer in this special field. Norwegian consultants have through assistance to BKI/shipowners and by participating in the Master Plan for MSDP made themselves aquainted with maintenance problems and part of the field work is actually done. The above study will thus form a natural prolongation of previous assistance given to Indonesia.

The Study

The Indonesian fleet consists of some very modern and costly ships in overseas trade and at the other extreme a great number of smaller, old RLS ships, and therefore has different requirements as to planning of maintenance. The maintenance systems, if any, used by Indonesian shipping companies today, are not all developed to meet today's requirements. Several types of maintenance and spare parts systems are offered by technical agencies, both for computerized and manual operation, all being flexible as to the volume of components to be included. Ships officers' competence and shipowners' ability to implement and utilize such systems will also vary.

The content of the study should therefore be to:

- Investigate selected companies' present maintenance systems, their ability, as well as willingness, to adopt PMS.

- Propose an outline for alternative advanced and simplified systems for groups of ships or companies. Due consideration should be given to finding practical solutions that are suitable for ships of various types.

- How to introduce the system and required training of shore staff and sea personnel.

- The ISMD, Vol.1, proposes to promote training modules for on-board maintenance, which are to be included in the curriculum for Nautical Schools. The consultants should therefore advise in what way the proposed PMS should be included in this scheme.

- The code system to be introduced should be in conformity with the SFI group system already implemented in some shipping companies/yards and BKI.

- Estimate of cost for implementing the various solutions.

Cost Estimates (NOK)

Study		
Two consultants, five weeks at	14,000	NOK 140,000
Travelling, international, 2 x	14,000	" 28,000
" , domestic, 2 x	5,000	" 10,000
Per diem 2 x 14 x	1,000	" 28,000
Miscellaneous		" 44,000
Total:		NOK 250,000

Consultancy for implementation is impossible to estimate as this will depend on the findings of the above consultants. However, the team suggests that this project be limited to the above

study and that workshops for PMS be integrated in the Manpower Development and Training Programme (Appendix X).

Priority

High priority is given to this project as a continuation of the present pilot project. If it is not possible to finance within the present grant this year, other possible sources inside NORAD's budgets are proposed.

OUTLINE FUTURE ASSISTANCE

MANPOWER DEVELOPMENT AND TRAINING

Introduction

Manpower development and training is one of the most crucial elements in improving the function of the maritime sector in Indonesia. Operation of ports, management of shipping companies and increased security of operations are particularly important targets for assistance. A certain number of institutions already offer possible channels for assistance of a technical and/or financial nature. A co-ordinated and well planned upgrading of these institutions appears to be of great potential value. The team recommends that an eventual future program of assistance should build upon these institutions.

The team has not been able to evaluate the relevant institutions in a complete and exhaustive way. It appears, however, that their quality, although generally characterized by lack of equipment, is somewhat varyied. This appears to be especially true of the maritime academies.

General Recommendations

The team recommends that a program of courses and seminars be continued according to the following guidelines:

- Seminars of 2-3 weeks duration are generally not very useful as a framework for Basic teaching as time is too short. It is therefore recommended that seminars be phased down in the future and directed towards meeting a demand for follow-up and 'state-of-the-art' training of personnel with prior education up to a certain level of qualifications.

Consequently the emphasis should be put on courses of 2 - 3 months or more, aimed at upgrading skilled and semi-skilled workers, foremen and lower management personnel in shipping companies and shipyards.

Future Norwegian assistance should as far as ever possible train Indonesian personnel to perform training functions. Positive experience e.g. of training at shipyards under the programme shows the potential of this approach.
(See further below)
The recruitment of Norwegian teaching personnel under a future programme would thus be directed towards:

- filling gaps in the capacity of Indonesian personnel to perform teaching in fields of priority.

- staffing the seminars in their revised form.

Training of trainers

An important aspect of the future Norwegian contributions should be to train Indonesian personnel to take over courses and staff the schools. Counter-part training should be emphasized.

Requirements in manpower development and training in the sector are so great that Norwegian contributions must be targeted towards aspects where this could be of particular value. Also, they should co-ordinate with and possibly support programs undertaken by institutions such as ESCAP, UNCTAD, ILO and UNDP.

There is a strong and urgent need for more and better equipment in most institutions.

In particular an effort should be made to develop and produce better and more text books and other teaching material. Again, co-operation with ESCAP and UNCTAD programs would seen warranted. Norwegian assistance in this particular field should be in form of assisting Indonesian authorities and school staffs in improving existing material and adapting it to Indonesian needs. It could also include an invitation to a selected number of Norwegian institutions to develop relevant teaching material and take part in any project of assistance to Indonesian institutions.

Vocational Training

The team recommends that training of welders, pipefitters and other categories of qualified workers relevant to the marine sector should take place in over-all, vocational training schools, not at separate training centres especially set up for dockyard workers. In this way, the benefits of assistance offered will spread to more people and at the same time indirectly reach the dockyard sector. The team recommends that a one-year course, on top of the regular vocational training, be set up in order to train workers especially in skills required by dockyards.

This is to be seen as the long-term goal towards which future programs should be directed. As needs are obviously pressing, a crash effort ought to be made to improve the precarious situation in the dockyards. One such effort would be to set up training courses similar to the ones executed under the existing program, at a selected and representative number of dockyards. In order to achieve the long-term institutionalization of training in vocational training centres the crash courses should be integrated into the planning and implementation of the long-term goal.

A. Marine Academies

Possible assistance

Norwegian assistance, if decided, should take into account and co-ordinate with in-going programs executed by UNDP/ESCAP in particular and with the programmes run at the recently inaugurated World Maritime University in Malmø. More detailed information is needed in order to decide whether Norwegian financial assistance to these programs ought to be extended. The team proposes that this question be considered.

It is suggested that under the program of assistance considered in this context, priority be given to technical and financial assistance to the four Indonesian maritime academies. Such assistance should mainly consist of developing teaching material and competence:

- select and adapt a range of books or other textual material to be translated into Indonesian.

- develop audio-visual programs of teaching to supplement the aforementioned.

- set up a program of educating teachers in order to upgrade and update their competence; programme to be carried through primarily in Indonesia, but also especially during the first few years at Norwegian and/or other foreign institutions.

- supply the most elementary physical equipment according to a list of priorities to be worked out.

- expand on-the-job training possibilities for cadets.

Proposal

Priority should be given to developing teaching material and to improving teachers' competence. The former could include one or two Norwegian consultancies by inviting Norwegian institutions to contribute ideas and to make concrete suggestions under this priority task.

On-the-job training facilities could be improved by inviting Indonesian and foreign shipping companies, including Norwegian, to offer short-term job opportunities on board ships on international routes.

Cost (NOK mill.)

Costs are difficult to estimate as the team has no basis for specifying per item costs under the proposed measures. However, a tentative cost profile may be as follows:

	85	86	87	88	Total
Consultancy, pilot program	0.7	0.2	-	-	0.9
Development, adaption and translation of text books	0.5	0.5	-	-	1.0
Course programmes for staff (mostly to be covered under other sub-programs)	0.3	0.4	0.4	0.5	1.6
Supply of physical equipment	0.5	-	-	-	0.5
	2.0	1.1	0.4	0.5	4.0

B. Assistance to BKI/SEACOM

It is suggested that a minimum of 3 BKI employees be offered training opportunities in Norway in order to acquire high-level skills strongly and urgently needed in appraisal of rig design and practical construction on site. Such training could last for a period of 6-9 months.

There is also a strong and urgent need to upgrade BKI competence in classifying ships. It is therefore proposed that three persons be offered 6 months training in Norway for that purpose.

It is proposed that the cost of these projects be covered under Fellowships Division Budget.

Similar assistance should also be offered to Seacom. However, this training could be organized and undertaken by the technical advisors proposed in Appendix XI.

No extra funds should therefore be necessary.

C. Dockyard training programme

As envisaged in Chapter 6, priority ough to be given to vocational training at existing institutions and those under construction.

However, in order to meet an extremely urgent need to upgrade skills in repair and maintenance at the dock-yards, a crash program of training at some selected yards is proposed. Such

programs should follow up the outline adopted at SEACOM's training courses 1978-82. The costs are estimated at 3 mill. NOK for 1985-86.

D. Seminars

In order to upgrade and, more specifically, update Indonesian personnel on developments in some areas of key importance, the team propose that Norwegian assistance be extended to a series of state-of-the-art seminars. These seminars should be aimed at management personnel in both the private and the public sector. They should cover such areas as safety, management, ship maintenance, dockyard development and manpower development and training in general.

A program of seminars could amount to some 8 - 10 seminars over a total period, involving Norwegian as well as Indonesian teachers.

Cost (NOK mill.)

	1985	1986	1987	1988	Total
Seminars	1.0	1.0	0.7	0.8	3.5

OUTLINE FUTURE ASSISTANCE

NAVIGATIONAL AIDS - TELECOMMUNICATIONS

General

As a part of the MSDP, a masterplan for navigational aids has been worked out. With more efficient vessels and improved productivity in ports it is important to focus on critical navigational routes between gateway ports and collector ports. Further, a crash program has been drawn up for installation of costal radio stations, and this program is now being executed together with implementation of a medium wave Radio Beacon Plan.

The team has not been able to go into detail on specific needs in this sector, and further investigations have to be undertaken until a program can be worked out.

Possible Assistance

Content of advisory services could be within the following areas:

A. Navigational Aids

Infrastructure:

- nautical charting
- unlighted visual aids to navigation
- lighted visual aids to navigation
- conventional radio aids to navigation
- hyperbolic radio-navigation system
- microwave aid to navigation

Administration:

- Organization structure
- logistics
- maintenance
- training

B. Telecommunications

- radio communications
- satellite communication
- satellite navigation
- search and rescue

Recommendations

Creating efficient aids to navigation and telecommunication will demand large resources. Advisory services should as first priority concentrate on developing organizational structure and giving necessary training to people responsible for charting, buoyaging and development of telecommunication systems. Secondly, advice regarding choice of infrastructure, logistics and maintenance. We would propose to carry out a supplementary study if required. Further assistance will depend on the findings

Cost

Two consultants, five weeks at 14.000	NOK	140,000,-
Travelling international 2 x 14.000	"	28,000,-
Travelling domestic 2 x 5000	"	10,000,-
Per diem 3 x 14 x 1000	"	42,000,-
Contingencies	"	80,000,-
Total	NOK	300,000,-

Note: Considering the magnitude of the Navigational Aid Program and that any assistance from Norway in this sector is apt to be comparatively small, the team would alternatively suggest:

- Technical assistance to Norwegian funded projects where upgrading of navigational aids will be required.

OUTLINE FUTURE ASSISTANCE

MARITIME SAFETY IMPROVEMENT

General

Maritime safety is one of the programs in the MSDP, with main aim to ensure availibility of well-trained and qualified personnel. Improvements is very urgent being too many serious incidents in Indonesian costal waters. It is said that Indonesian vessels to some extent are neglected with regard to maintenance, safety equipment and training of crew. Though it is not mentioned in the overview of the MSDP, the team expects that this part includes national legislation with corresponding rules and regulations as well. As national legislation were said to be obsolete, and superseded by international conventions of 1948/60/78 with later ammendments, there is a need for improvements.

The procedure for design appraisal and survey of ships safety are also essential. This is today carried out by BKI and partly by SEACOM.

The operation of ships, especially those carrying passengers require the utmost attention on the safety aspect as to certificates, control of equipment and regular excersises on onboard. Bearing in mind the number of passengers carried anually more emphasis should be placed

- by companies on improving ships' safety
- in Maritime Academies on subjects such as safety and fire-fighting
- by SEACOM and BKI for improving survey solutions.

Possible assistance

SEACOM

- National regulations.
- Implementation of international conventions.
- Procedures for safety, control (design appraisal, inspection, etc.).

- Choice of necessary equipment.
- Staff upgrading.

BKI
- Develop computer applications.
- Supply at hardware and software.

Recommendations

The team will recommend that assistance is given to both institutions. The assistance asked for by BKI is mainly directed towards training of surveyors in Norway and this is dealt with in Appendix IX.

SEACOM seems to have greatest need to upgrade national regulations and develop effective procedures for improving safety of vessels. The team propose two technical experts to assist in this work.

For BKI the team propose that the highest priority should be on software assistance. However, having not been able to go in depth in this a lump sum is proposed for use to different purposes after further evaluations.

Cost (NOK mill.)

	85	86	87	88	Total
Two advisors SEACOM	1,8	2,0	2,2	0	6,0
Car allowance	0,4	0,1	0,1	0	0,6
BKI	0,3	0,3	0	0	0,6
Total	2,5	2,4	2,3	0	7,2

OUTLINE FUTURE ASSISTANCE

TECHNICAL ASSISTANCE TO P.T. PANN

General

It was confirmed in SEACOM that also in the future P.T. PANN will have an important role in developing the domestic trade. So far, it has not been decided in what way they may participate in the forthcoming extensive log carrier/coal transport study, but if they were to be given the co-ordinating responsibility for executing this study, a heavy workload would be placed on their shoulders.

At present nearly all cargo in the domestic trade is handled by conventional methods. With the introduction of ILS unitization will be implemented and thus RLS shipping companies attached to P.T. PANN will require a cargo superviser, well skilled in practical modern cargo-handling.

SEACOM have also expressed their requirements for assistance from the Advisory Team.

Assistance to P.T. PANN

Content of advisory service within the company can be summarized as follows:

- Drafting of ship specification and critical examination of ship's design.
- Tendering and negotiations with shipyards for newbuildings/ convertions.
- Technical supervision during building, delivery and guarantee period.
- Survey and evaluation of second-hand ships.
- Preparation of budgets and accounts.
- Monitoring of shipping companies' performance.
- Appraisal of projects.
- Financing, leasing of new and second-hand ships.
- Selection of consultants.
- Developing computer applications.

Service to Shipping Companies

The team feels that advisory service to the 18 shipowners connected with P.T. PANN ought to be given much wider scope in the future. Of special importance in this context would be:

- Accounting systems.
- Budgeting procedures, Cost Control.
- Shipboard Management.
- Planned Maintenance programme.
- Preparation of Docking Specifications.
- Survey of Ships.
- Fuel Economy.
- Implementation of Unit Loads when ILS System is introduced.
- Workshop/Seminars/Training programmes.

Recommendation

The team recommends that the engagement of a Financial Adviser and a Technical Adviser be prolonged throughout the period. As will be noted under paras. above, there are considerable elements to be taken care of, with which it will not be possible for only two experts to cope. The team therefore proposes that a "Consultancy Fund" be allocated to this project, whereunder the cost of outside assistance can be covered.

Cost (NOK mill.)

	1985	1986	1987	1988	Total
Two advisers	1.8	2.0	2.2	2.4	8.4
Car allowance	0.4	0.1	0.1	0.1	0.7
Consultancy Fund	1.0	1.0	0.8	0.8	3.6
	3.2	3.1	3.1	3.3	12.7

APPENDIX XIII

OUTLINE FUTURE ASSISTANCE

TECHNICAL ASSISTANCE FOR STEERING COMMITEE OF MSDP

General

The Maritime Sector Development Program (MSDP), as described in para 3.1.2. must be regarded as one of the largest shipping and port renewal/extension programmes ever undertaken. The MSDP expresses the Government's maritime policy and a number of the integrated programmes are very extensive.

The MSDP was established in mid 1982, and preparatory work is meant to be finished by the end of 1984, whereafter the Plan can gradually take shape. A series of studies and investigation reports have in the past been presented to the steering committee from MSDP task force, placing a heavy work load on those formulating an action with managerial tools for the follow-up of the complete MSDP.

Mobilizing the MSDP and ensuring that part-projects are properly interfaced will be of utmost importance for a successful result.

Possible assistance

Norway has extensive experience related to large-scale projects, especially in the development of oilfields, construction of Offshore structures with integrated onshore facilities. Administrative Planning Systems for Engineering & Management Consultants (EMC), being tailor-made for this industry, may also be used for other integrated projects, for instance a plan such as MSDP.

The system may comprise the following elements and activities:

Administration

- Scheduling and scheduling Control.

- Prepare procedures for the execution of planning, scheduling, follow-up and reporting of the total project.
- Supply and maintain necessary computing systems for information processing and reporting.
- Prepare the Project Master Schedule.
- Measure and analyse project progress and performance
- relative to scope of work, plans, schedules and budgets.
- Prepare the overall Project Monthly Report.
- Prepare status and progress reports for the total projects, with focus on forecast and completion.

Estimating and Cost Control

- Execute the estimation and cost control functions generally according to documents and information provided and with documentation structured in accordance with the agreed Project Breakdown Structure.
- Prepare procedures on how the project costs will be estimated, controlled and reported, including procedures for cost trending and for handling of variations to the work.
- Update at intervals the current Control Estimates to Completion to provide a current project Final Cost Forecast reflection trends and variations.
- Monitor commitments and expenditures against budget.
- Prepare the Final Cost Statement.

Recommentdation

If required, Norway could assist Indonesia in engaging a team of consultants from one of the leading consultancy firms working with complex integrated projects to develop an Administrative Planning System for some of the MSDP programs.

Finance

The team understand that World Bank funds have been used for preparing and initiating parts of the action program. The team therefore considers that the cost of the above assistance could be financed under this scheme.

OUTLINE FUTURE ASSISTANCE

CONVERSION OF LOG CARRIERS - BULK TRANSPORT

General

The Government decision to terminate the export of logs by 1986 and to replace this by sales of semi-finished or finished forest products has hit 94 log carriers. These will gradually have to find alternative cargo unless they are able to accommodate the new forest products in a proper way.

Some of the log carriers have already been converted to the transport of other cargoes such as rice. As rice is one of the base cargoes for RLS ships this will, if continued on a larger scale, have an adverse effect on their operation by reducing their revenue potential.

The present state of the log carrier fleet is unknown to the team, but one ship inspected in Palembang was in a rater bad state and would probably not be economically viable for conversion. Of the 94 log carriers, 50 have been mentioned as fit for conversion.

The cement and fertilizer industries have previously used fuel oil in their production and so have electrical power plants. As the country has considerable coal resources and mines are being developed, conversion from fuel oil to coal has already been effectuated, thus preserving oil for export.

Cargo Flow

For some of the main commodities the following forecast is presented in the Integrated Sea Transport Study (ISTS) of June

1982:

CARGO FLOW (in 1,000 tons)

		1979	1988	Increase Volume	Increase %
Fertilizer, domestic	1)	1,076	2,655	1,579	146
" " oceangoing	2)	169	679	510	302
		(1,245)	(3,334)	(2,089)	168
Cement, domestic	1)	461	2,769	2,308	500
" oceangoing	2)	488	-	- 488	-
		(949)	(2,796)	1,820	192
Timber, domestic	1)	1,437	1,545	108	8
" oceangoing	2)	13,626	4,571	- 9,055	- 66
		15,063	6,116	- 8,947	60 -
Coal, domestic	1)	165	2,691	2,526	1,531
" oceangoing	2)	59	-	- 59	-
		(224)	(2,691)	2,467	1,101
Grand Total:		17,481	14,910	- 2,571	15 -

1) Including Singapore and West Malaysia.
2) Export only. Singapore and West Malaysia excluded.

The percentage of bagged cargo for cement and fertilizer in the above figure is unknown.

An interesting feature is the coal forecast, whereby 2.7 mill. tons have to be carried for domestic use within a four-year period.

The study

A cement and fertilizer transport study has already been done and a coal study as well, but the sealeg part is still pending.

Considerable transport potential and capital are represented by the fleet of 94 log carriers and a conversion of these is therefore considered of national importance, especially as the owners - and their creditors as well- are investors in the cement and fertilizer industries. They all have a common interest in seeing the future of theses ships and shipments of coal safely assured. Representation of SEACOM have given this study <u>top priority</u> and also underline immediate implementation. Realizing the standard of Norwegian know-how for solving shippers'/consignees' transport needs in the bulk trade, often with complicated transport modes and terminal operation, the team would recommend that Norway participate in this study, offering the services of a well qualified group to assist Indonesia in solving an acute need.

The scope of the work for such a study will be:

- Evaluate present and future cargo flow forecast for coal shipments.

- Evaluate port facilities.

- Present alternative solutions for coal transport.

- Investigate the possibilities of converting log carriers into carriers for coal.

- If transport of other bulk cargoes, such as cement or fertilizer, could be integrated, this to be evaluated.

- Cost estimates, including expenditure for conversion of log carriers.

Before a comprehensive study is launched, the team propose that a short fact-finding study be initiated, to compile base information and discuss possible transport solutions, enabling Indonesia to work out detailed Terms of Reference for specific problem areas that may be unveiled during the fact-finding study.

Cost estimates

1. Fact-finding

Two consultants for 3 weeks at 14,000		NOK	84,000
Travelling, international	2 x 14,000	"	28,000
" domestic	2 x 5,000	"	10,000
Per diem, 2 x 14 x 1,000		"	28,000
Miscellaneous		"	10,000
Total:			NOK 160,000

2. Feasibility Study

Three consultants each 14 weeks at 14,000		NOK	588,000
Support services		"	100,000
Travelling, international	6 x 14,000	"	84,000
" domestic	6 x 5,000	"	30,000
Per diem, 3 x 42 x 1,000		"	126,000
Miscellaneous		"	72,000
Total:			NOK 1,000,000

Grand total:		NOK 1,160,000

The estimate for the main Feasibility Study is difficult to calculate, as this will depend upon how much material is available and also the shipowners'/banks' participation in the Indonesian contribution. The Fact-finding Study will, however, give some indication of the complexity of the main study.