

LINKING TELECOMMUNICATIONS INVESTMENT WITH PORT DEVELOPMENT

A Study done for the Planning Commission/UNDP, New Delhi

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INTRODUCTION

This study was sponsored by the UNDP through Prof M.Q. Dalvi, UNDP Adviser on Transportation at the Planning Commission, to study the supportive relationship of Telecommunications with cargo movement and to develop a quantitative model which could help as a guideline for investment in telecommunications facilities at a Port. The Port of Kandla is used as a Case in point.

The study had two distinct foci, (1) development of a quantitative model of the relationship between telecommunications and cargo movement, and (2) identification of problems relating to Kandla Port and suggestions for improvement..

Definitions

For the purposes of the study, telecommunications was defined as comprising of three technologies - Telephone, Telex and Telegraph. Direct data on telex was not available, so that means of communication is not reported on.

Cargo movement information was collected either in terms of tonnes or consignments, or both, depending upon the availability of data.

Execution

The study was conducted through several concurrent tasks - data collection at Kandla, interviews at Kandla, Ahmedabad and Bombay, Questionnaire survey among shippers countrywide, data analysis, a detailed study in one firm, etc.

A world-wide search was conducted for relevant literature and experiences related to planning telecommunications for ports (See Appendix A). Experts in various fields of cargo movement - Shippers, Agents, Brokers, Government officials and telecommunications were contacted for opinions and information. The results of this information gathering are presented in this report.

Presentation

First we provide a '**Summary and Further Research Avenues**' followed by the main text of the report and then by the 'Appendices' which contain much of the information in 'raw' form.

The main section itself is divided up into Part I and Part II.

Part I relates to the quantified model of the relationship between telecommunications and transportation. Application of this to Kandla is done later in Sec. 2.3.

Part II describes the problems of Kandla Port and some suggestions to alleviate them. The emphasis here also is on Telecommunications and there is a segment which deals with the kind of telecommunications facilities Kandla should have, based upon the ratios we have obtained in our analyses.

Acknowledgements

During the course of our study we have been helped by quite a few people and it is not possible to list all of them here. But it is fair to say a special 'thank you' to the following people - Prof M.Q. Dalvi (UNDP Adviser on Transportation, Planning Commission), Mr Y.M. Agnihotri (Freight Investigating Officer, Kandla), Mr J.I. Vasawada (SDO Telephones, Gandhidham), Mr Sudhir Ranganekar (Asst. Manager, Technical Services Division, Shipping Corporation of India), Mr S.V. Date (Kirkoskar Brothers, Pune), Mr K. Kumar (Secretary, Western India Shippers Association, Bombay), Mr C.S. Venkoba Rao (Asst. Engineer, Equipment Planning, Pune Telephones) and Mr G.K. Kulkarni (Divisional Engineer, Pune Telephones).

Mr B.M. Rao and Mr O. Unnikrishnan of **SRI** have **been responsible for the** final production of the report.

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SUMMARY - FURTHER AVENUES AND POLICY RELEVANCE

Three methods were used in this study to gather data: questionnaire survey, regression analyses, and interviews. All three suggest that there is a strong linkage between cargo movement and telecommunications utilization.

Quantified relationships between cargo movement on the one hand, and telephone and telegrams on the other have been developed. Ratios giving telephone calls, telexes and telegrams per tonne and per consignment have been derived for Indian shippers operating mostly through Bombay. (See page 1.11 for details).

It seems clear that the telephone system at Kandla is working at a saturation level and needs to be augmented. STD circuits should be provided to Ahmedabad, and to Bombay in order to make the Kandla Port more attractive to exporters.

Some other suggestions for improving the situation at Kandla include - concessional

freight rates for cargo moving by rail to Kandla, more storage capacity at the port, and better marketing efforts by the management to tap the hinterland which has a lot of potential. Improved infrastructural facilities (in addition to telecommunications) like better commuting facilities between Gandhidham, Kandla and Adipur; air-service to Kandla, and appropriate arrangements for boarding and lodging should contribute significantly to the fuller utilization of Kandla.

Container-terminal feasibility study:

Kandla Port has a strong prima facie case for being developed into a container terminal because of the vast ground space available, very low rainfall and the existence of both metre gauge and broad gauge railway lines. An exhaustive study should be launched to confirm the techno-economic feasibility of this idea.

* Without exception the other ports in India suffer from a very heavy rainfall which makes movement difficult and causes damage to cargo.

Another useful area of research will be to build up on the present study. This study was focussed upon and utilises data from Kandla. But each port has a more or less unique 'personality' based primarily upon four attributes:

- (a) Industrial base (in the immediate vicinity and in the hinterland)
- (b) Infrastructure (natural characteristics like draft, tides and length of the water-front; road and rail links; on-shore facilities, etc.)
- (c) Organisation (kind of body managing the port, skills available, efficiency of the staff and labour, etc.)
- (d) Cargo handled (quality and quantity)

Based upon the personality of the port, the relationship between telecommunications and transportation is likely to be different. It should be possible to develop, a few, say three, 'standard' personalities of ports based upon a set of attribute-vectors and then design specific Telecommunication-Cargo models. This set of models should help plan for telecommunications investment for any port through defining its personality to the nearest approximation of a 'standard' port.

Policy Relevance:

This study has resulted in the generation of empirical, quantitative relationships between telecommunications and cargo movement. The relationships can be used to project the likely telecommunication traffic for an existing or a new port, based upon the estimates of future cargo movements. These telecommunication traffic figures can then be translated into hardware requirements using the well established norms of the P&T. Department. Once the hardware requirements are known investment policies specific to telecommunications can be formulated.

We have provided an example of how it can be done in Part II Section 3 (p.2.19) in relation to Kandla Port.

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