

ESTIMATES COMMITTEE

Twenty-Ninth Report

MINISTRY OF RAILWAYS

RAILWAY STATISTICS



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LOK SABHA SECRETARIAT
NEW DELHI
March, 1956.

CORRIGENDA

TWENTY-NINTH REPORT OF THE ESTIMATES COMMITTEE ON THE MINISTRY OF RAILWAYS

Page 8, para 16, line 4; Delete the word 'where'

Page 12, Footnote, Read 'subsequently' for
'subsepuently'

Page 14, para 25, line 38; read 'net ton-miles'
for 'netton miles'

Page 18, para 30, lines 4 & 5; read 'in a
subsequent report' for 'in subsequent paras
of this report'.

Page 23, para 38, line 5; read 'Eastern' for
'Easter'

Page 32, para 58, line 3; read 'those' for 'these'

Page 33, para 59, last line; read 'those' for
'thes:'

Page 36, para 68, last line; read 'in a
subsequent report' for 'elsewhere in this
report'

Page 39, para 74, line 12; read 'in a subsequent
report' for 'elsewhere in this report'.

Page 47, para 98, lines; 2 & 3, read
questions of statistics. Until 1931
there were periodical meetings' instead of
'ques - contract, except of a casual
nature, between the railways, on ques-"

Page 47, para 98, line 14, read 'changing'
for 'hanging'

Page 59, line 11; read 'Metre' for 'Meter'

Page 62, second column, line 6; read
'recommendation' for 'recommendations'

Page 68, last line, read 'choosing' for
'chosing'.

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Shri M. Sundar Raj—*Deputy Secretary.*
Shri C. S. Swaminathan—*Under Secretary.*

*Elected Member with effect from the 7th December, 1955 *vice* Shri R. Venkataraman resigned.

INTRODUCTION

I, the Chairman, Estimates Committee having been authorised by the Committee to submit the Report on their behalf present this Twenty-ninth Report on the Ministry of Railways on the subject "Railway Statistics".

2. The Committee wish to express their thanks to the Chairman and Members of the Railway Board and other Officers of the Ministry of Railways for placing before them the material and information that they wanted in connection with the examination of the estimates. They also wish to thank the representatives of the Federation of Indian Chambers of Commerce and Industry, New Delhi, the All India Manufacturers' Organisation, Bombay, the All India Federation of Transport Users' Associations, Bombay, the National Federation of Indian Railwaymen, New Delhi and Sarvashri H. N. Kunzru, M. P. Shanti Prasad Jain, L. P. Misra, K. C. Bakhle, I. S. Puri, V. P. Bhandarkar and B. B. Varma for giving their evidence and making valuable suggestions to the Committee.

NEW DELHI;
8th March, 1956

BALVANTRAY G. MEHTA,
Chairman, Estimates Committee.

I

INTRODUCTORY

Considerable time and energy is spent on the Indian Railways in the compilation of statistics. Each Railway has a separate Branch for this purpose under a Statistical Officer and in the Railway Board there is an organisation under the Economic Adviser to the Board. Much money is also spent on the compilation and printing of the publications both in the various Railways and in the Railway Board.

2. Statistics are required on the Railways for the following purposes:

- (i) To assess the performance in any given period of the various activities of the Railways at various levels.
- (ii) to study how this performance compares with the performance in the previous periods in respect of the same activities;
- (iii) to see how this performance compares with the performance of other organisations or units;
- (iv) to ascertain by a careful study of the statistics, the causes of poor performance in the previous periods and to determine what action is required to be taken to rectify the defects; and
- (v) to determine targets for future performance and the steps to be taken to see that these are achieved.

3. As the Acworth Committee has said, "adequate statistics are urgently required not only to enable the Railway Board to control the management of the Railways for which it is responsible, but to enable the Managers themselves and their officials to see how the work which they are doing compares with the work done elsewhere; and also to see that they are not retrograding but improving in efficiency year by year". An efficient organisation for the compilation of adequate statistics in the proper time and for their proper interpretation is, therefore, a *sine qua non* of Railway administration.

4. The expenditure incurred for the statistical organisation of the Railways can be justified, however, only if—

- (i) the statistics compiled are really necessary and do not include unnecessary items;
- (ii) they are compiled quickly and made available to the officials in sufficient time for action to be taken at all levels;

- (iii) the figures really reflect the actual performance and no errors are allowed to creep in due to failure to compile or submit the correct returns;
- (iv) the statistics are properly and intelligently interpreted and periodical reviews are made of performances in different periods by the same units;
- (v) the interpretation extends to a comparative study being made of performances of the different units performing the same kind of service; and
- (vi) the results of certain important activities of the Railways at various levels are made available to the public, both in statistical form and as a commentary thereof in sufficient time. This is necessary not only because Railway Transport constitutes a monopoly and a major activity of the Government but also because it is a vital matter for all industrial and economic development in the country. Dissemination of such information to the public is an essential function of the Railways. This will enable them to appreciate the kind of work that is done and to offer useful and constructive criticisms.

5. With these points in mind, the Committee have examined the organisation and procedure for statistical compilation and interpretation and for the publication of the results thereof in the Railway Ministry and their conclusions are embodied in the following paragraphs.

II

A HISTORICAL SURVEY OF THE DEVELOPMENT OF THE ORGANISATION, FORMS ETC.

6. Recognising the important role played by statistics in the management of the Railways, the Acworth Committee which was appointed in 1921 to examine the organisation for the management of Railways took pains to examine the statistical organisation on the Railways and to comment thereon as a part of their Report. As the form of statistics adopted by the Railways at that time had continued unchanged since the year 1880, that Committee made certain recommendations for the reform of statistical organisation and procedure on the Railways. As a result thereof, a committee of officials known as the Scott-Budden Committee was appointed by the Railway Board and their Report known as the "Report by the Committee, for Revision of Statistics on Indian Railways" was made available in 1923 and implemented by the Board in 1924.

7. With the exception of the creation of the post of Economic Adviser to the Railway Board in 1948, the existing statistical set up on the Railways remains more or less the same as it was in 1924 when the Scott-Budden Committee Report was implemented.

Though certain changes in the procedure for compilation of some statistics have been effected since then and certain additional items of statistics have also been introduced, the forms and contents of the annual publication may be stated to be more or less broadly the same, as they were then. Monthly publications have, however, undergone substantial changes. The Wedgwood Committee who had examined this matter in 1937 as a part of their investigations for effecting an improvement in the earnings of the Railways and for placing the finances on a sound basis, had made various suggestions for the improvement of the organisation and procedure of statistics on the Railways. The Kunzru Committee also examined this matter in 1947 while inquiring into the working of the Railways.

8. Extracts from the Reports of the Wedgwood Committee 1937 and of the Kunzru Committee 1947 in respect of Railway Statistics are placed as Appendix I to this report.

9. The Wedgwood Committee made the following recommendations:—

- (i) The delay in compilation of statistics should be avoided.

(ii) The system of statistics should be reviewed with the object of increasing their usefulness and reducing the cost of compilation. The Committee had indicated certain directions in which revision could be fruitfully undertaken.

(iii) Unnecessary and misleading statistics should be eliminated.

(iv) Certain additional statistics should be introduced.

(v) Conferences of Statistical Officers should be held periodically etc.

10. In reviewing the action taken by Government on the Wedgwood Committee's Report, the Kunzru Committee, amongst other things, had reported as follows:—

"The Wedgwood Committee, in 1937, devoted considerable attention to the question of statistics, and recommended that—

(i) the existing system of statistics should be reviewed with the object of increasing their usefulness and reducing the cost of compilation;

(ii) the periodical conferences of Statistical Officers, which were discontinued since 1931, on the ground of economy, should be resumed;

(iii) a Statistical Officer should be reinstated in the Railway Board's office, and that the statistical organisation of some railways, from the point of view of interpretation, should be strengthened."

While we are aware that action on recommendation (iii) above was taken some time ago, the conference of statistical officers referred to in (ii) above has only begun recently. So far as we are aware, action on recommendation (i) above has not yet been taken."

The Kunzru Committee had also made various recommendations for the improvement of the statistical branch. In their report on the action taken on the Report of the Indian Railway Enquiry Committee, 1947 (The Kunzru Committee), the Railway Board have stated that these recommendations have been accepted and that action is being taken to implement them. Though it appears that subsequently, on the other items, the Board has taken action more or less on the lines recommended by the Kunzru Committee, the position in respect of these recommendations, namely the delay in compilation of statistics and the use to which they are put, remains the same and implementation of those important suggestions to which the previous Committee had given so much thought is still outstanding.

III

RAILWAY BOARD'S STATISTICAL PUBLICATIONS

11. The statistical publications of the Railways fall under two heads, namely:

- (i) those prepared by the Railway Board from data supplied by the Railways; and
- (ii) those prepared by the Railways for their domestic use.

Railway Board's Publications

12. The statistical series of publications compiled and issued by the Railway Board are as follows:

(i) *Periodical*:—

1. *Trimonthly Advance Statement* of approximate gross earnings of Indian Railways for every 10/11—day period.
2. *Trimonthly summary* of approximate gross earnings, wagon loadings and traffic handled etc., for every 10/11—day period.

(ii) *Monthly*:—

3. *Monthly Press Communique*, giving gross earnings, tonnage lifted and wagon loadings on Indian Railways.
4. *Monthly Railway Statistics* presenting the principal statistical results of Indian Railways relating to earnings and traffic, commercial statistics, operating statistics and rolling stock performance, etc. and trends of performance (for 3 years).
5. *Supplement to the Monthly Railway Statistics* containing residual information of the Railway performance meant for official use only.
6. *Monthly Operating Statistics of Marshalling Yards and Terminal Goods Stations*.
7. *Monthly Workshop Repairs Statistics* (Locomotive, Carriage and Wagon Repairs statistics).
8. *Monthly Statistics of Freight Traffic and Earnings by commodities*.
9. *International Bank Statistics* (since discontinued).
10. *Monthly Review of Accident Statistics*.
11. *Monthly Claims Statistics* of Goods lost or damaged.

(iii) *Quarterly*:—

12. Quarterly trend of goods traffic in 'smalls' and parcels.
13. Quarterly statement of monthly earnings from platform tickets.
14. Quarterly staff position of Class I and II Officers.

(iv) *Half-Yearly*:—

15. Review of half-yearly statement of occupation ratio during May and November each year.
16. Half-yearly zone statistics of passenger traffic.

(v) *Annual*:—

17. *Annual Report* by the Railway Board of Indian Railways Volumes I and II.
18. *Indian Railways* (An abridged popular version of the *Annual Report*).
19. *History of Indian Railways*.
20. Results of working of coaching and goods services separately for Indian Railways.

The most important of these are the *Annual Reports* on the Administration of the Railways, Volume II of which is devoted to certain financial, operating and commercial statistics.

13. There is considerable delay in the compilation and publication of statistics by the Board. Both the Wedgwood Committee and the Kunzru Committee had commented upon this. They had pointed out that such delays render the statistics of little use and have suggested that measures should be taken for seeing that they are produced as quickly as possible. They had also made certain recommendations for organisational changes. The position, however, has not improved even till now. A statement is attached at Appendix II showing the dates on which Volumes I and II of the Railway Board's Report had been brought out in previous years. There has been some deterioration recently compared to 25 years ago. It will be seen that while in many of those years it took about six months to bring out the Reports, now-a-days it takes over ten months. Similarly, delays occur in the other cases also. It has been explained to the Committee by the Board that these delays are occasioned by various reasons which can be classified into two broad categories, *viz.*, certain organisational defects and failure of individual Railways to observe the prescribed dates for the compilation and submission of their statistics. It has also been explained to them that the changes in the organisation such as regrouping etc. of the Railways

have led to disorganisation in the work of compilation etc. The Committee consider that the position is very unsatisfactory and are not convinced by the explanations offered therefor. As for the organisational defects, it is for the Railway Board to see that they are rectified in time. At any rate, the continued failure year after year to bring out the statistics in time cannot be attributed to any temporary changes in organisations, which after all are pre-planned and decided upon in advance by the Board itself, who should accordingly have made all consequential arrangements necessary to prevent a breakdown in any aspect of administration. As for the failure of individual railways or units to compile their statistics in time, the Committee had inquired whether action had been taken against the officials responsible therefor. They were informed that as far as the Board were aware beyond stressing the need for observing promptitude in this matter from time to time, no action had been taken. The Committee would like to observe in this connection that unless vigorous steps are taken and the seriousness of the position realised, the position may continue to be as bad as it is at present.

The Committee have noticed many instances where statistical figures appearing in a year's Report have been revised through the next year's Report. This indicates that errors of compilation are too common and often vitiate the utility of published figures. The Committee hope that in future the number of cases of revision of published figures will disappear and more care will be exercised even in the first instance.

A publication known as the History of the Indian Railways is brought out periodically, once in 6 years. While this contains much valuable information, there are many directions in which it could be improved. Information about important Major Projects such as the Chittaranjan Loco Works, the Integral Coach Factory, their cost of construction, equipment, etc. could well be included there and more details such as labour and material rates etc. could be given. In connection with their examination of the cost of constructing the Ganga Bridge, the Committee had desired to be furnished with certain details of the cost of the construction of the Curzon Bridge in 1905, but complete information could not be obtained. As these are important matters, information on which should be readily available, the Committee consider that there should be a permanent record of them in a compilation such as the History of the Indian Railways.

IV

DOMESTIC STATISTICS OF ZONAL RAILWAYS

14. The individual Zonal Railways compile a considerable amount of statistical information the extent of which, however, varies from Railway to Railway. The most important of these statistics known as the Domestic Statistics is the monthly compilation showing important features of operating and mechanical working. These publications are intended for the use of the departmental officers, both of the headquarters as well as the outlying divisions, regions or districts. The main purpose of compiling the Domestic Statistics is to help these officers to study the trend of the figures which reflect their performances in order to improve matters and to plan for future working.

15. The form and contents of the domestic statistics vary from Railway to Railway, a note in respect of which is given as Appendix III. The note shows that wide differences exist between the form and contents of these statistics. The Kunzru Committee had recommended that no uniformity need be aimed at in this regard with which view the Committee agree, but the deviations should not be as wide as they are at present. It is difficult to see how some railways are able to carry on without some of the essential statistics which others find useful and necessary. Even the form of compilation varies from Railway to Railway and in many cases requires systematising, as will be seen from the notes on the Southern Railway.

16. It is obvious that an aspect of operation which may be very important to one Railway may not be of much significance to another Railway as the pattern of traffic varies from Railway to Railway, as for example, in the Eastern and South Eastern Railways, where loading of coal is a very important feature whereas in the Southern or the North Eastern Railway, there is hardly any coal loading. In view of this, complete uniformity cannot apparently be aimed at. But still there are a number of items which are common to all the Railways. Unfortunately there is absolutely no uniformity in either the number of items or the number of months for which comparative statistics are shown and this position makes it difficult for any Railway to compare its working with that of other Railways from these Domestic Statistics.

17. Detailed suggestions for the improvement of the Domestic Statistics of the individual Railways are contained in the note at

Appendix III. Generally, the Committee would recommend that the form of compilation on the Central Railway may be adopted with such minor variations as may be required by the different conditions prevailing in the various Railways. As it is possible that some of the information may be available more readily than others, it may be necessary to bring out these Domestic Statistics in more than one volume according to the time factor. It should also be seen that all connected information is brought together in one place and the position as prevailing in the Southern Railway where a number of statistical pamphlets of varying sizes are produced for the same month in various cyclostyled notes etc. should, as far as possible, be avoided.

18. A central direction is necessary in this matter for the following reasons:

- (a) The Railway Board do not maintain complete information on all aspects of Railway working even as a matter of record. Consequently when information is required on various aspects of Railway working, the Board have to call for the information from the Zonal Railways and some of the latter who have the information readily available supply it at once, but others take unduly long time as they may have to collect the information *ab initio*. This frequently defeats the purpose for which the information was required.
- (b) It is noticed that some Railways collect a large volume of information while others collect much less. This shows either that much unnecessary information is being collected on the former, or that the latter do not devote sufficient attention to important matters which are being looked into by the others. In either case the matter requires looking into.
- (c) It appears that considerable additional statistics, such as, financial statistics, statistics of staff position etc., require to be introduced in these compilations as explained later on and an overall survey of the position is necessary.

19. The Committee have noticed that little importance is being given to Financial Statistics in these domestic compilations. It is essential that District, Regional and Divisional Officers and Departmental Heads should be provided periodically with detailed statements of accounts of expenditure incurred by them on various phases of working. These statements should be drawn up in a comparative form showing the position for various units of the Railway and

should be accompanied by comparative notes and analyses, and suggestions for improvement. Statistics of costs per unit of service under various accounts heads for the Zonal Railways as a whole appear in Volume II of the Railway Board's Statistics. But corresponding figures for the smaller units such as the District, Region etc. are not compiled. Such figures would be very useful for the control of expenditure which ultimately depends upon control at the lower levels. The Committee would stress the need for making Railway officers finance-conscious by these measures.

20. In this connection the Committee would refer to the need for timely compilation of the figures if they are to be of any use for departmental working. But it is noticed that there is considerable delay in the compilation. A statement showing the dates when the Domestic Statistics published on the various Railways are received in the Board's office is given at Appendix IV. It will be seen therefrom that while the Central Railway's Statistics are received within a month of the period to which they relate, the position is different in the case of other Railways, some of which take even four months to supply their statistics. There is one case where it had taken seven months for the figures to be supplied to the Board. The Committee have already referred to the steps to be taken by the Board for the prevention of such delays. They would recommend similar steps to be taken by the General Managers and other officers on the Railways where such delays occur.

INADEQUACY OF THE PRESENT STATISTICAL COMPILATIONS

21. The Wedgwood Committee had recommended in 1937 that the existing system of statistics should be reviewed with the object of increasing their usefulness and reducing the cost of compilation. They had also suggested certain additional statistical information which ought to be compiled as being necessary for the management of the Railways. They had stated that there was at that time no fair balance between the operating statistics and commercial statistics. While endorsing this comment, the Kunzru Committee (1947) had stated as follows:—

“The need for a reorientation of statistics is recognised all round. We are convinced that a systematic review will show certain statistics can be discontinued and that there are other statistics for which a simpler and cheaper method of compilation can be found. The review will also show the need for additional statistical information particularly to measure efficiency in regard to certain matters, e.g., the working of terminals, the cost of handling at transshipment points, the cost of carrying coal. Some railways now attempt to calculate dependent costs but the results are not reliable; a more accurate method should be devised. On the commercial side, some of the statistics, such as the zonal statistics for important commodities, the flow of traffic over restricted routes and between points susceptible to compilation should afford guidance in regard to a sound commercial policy and practice. We also think that staff statistics by detailed categories should be compiled. We, therefore, recommend that the present statistics should be reviewed in accordance with the present day requirements. This review, should be continuous and directed towards keeping the statistics in conformity with the current needs.”

Though the economic situation in the country and the position of the Railways *vis-a-vis* other modes of transport are not at present the same as in 1937 or in 1947, the final conclusions of the two Committees in regard to the need for revision of statistics and for attention being paid to the commercial, staff and other matters besides operating would continue to apply. Even in regard to the commercial matters, steps have not yet been taken for reorientating the statistics so as to

compile vital information regarding the flow of traffic of commodities, the cost of handling at transshipment points, the working of terminals etc. Staff statistics are given very little attention in the Domestic Statistics of the Railway, and even in the statistics compiled by the Railway Board, important staff statistics such as absentee man hours, man hours worked in various workshops, sheds etc. are not compiled. Moreover, in respect of the working of the Stores Department, there is very little information given either in the Domestic Statistics or in the Railway Board's statistics. The balances, quantity as well as value of stores of various categories, including scrap, in the various Store Depots, the rate of issue etc., should be matters of vital information in the control of the purchases and issue of stores and should be readily available in the compilations for the use of officers of the Railway as well as for a periodical review in the Board's office of the working of the Stores Organisation on the various Railways. Some of the Foreign Railways, the Japanese National Railway, for example, attach much importance to statistics of actual consumption of key materials such as steel and their prices. These figures are even published in their Year Books for general information. There are other directions also in which improvement is possible, for example, the Committee were informed that figures of scrap balances and their disposal on the various Railways for the years prior to 1954-55 were not available. As the total value of scrap on Railways has been over 2 crores, these figures constitute vital information, and the fact that they are not readily available with the Railway Board indicates that there are still many directions in which supervision over Railway working requires to be extended. In respect of the Workshops, the monthly publication of the Railway Board, viz., "The Monthly Workshop Repair Statistics," does give some information, but it is not complete for purposes of scrutinising and examining the working of the various Shops. For example, such information as the extent of cost incurred in the various Workshops, the cost of equipment installed, the quantity and value of stores and parts manufactured for stock, absentee man hours, idle time etc. are not to be found therein. It has been explained to the Committee that some of these results are not published for security reasons. Since, however, most of the information of Workshop output is already being published in the monthly compilation of the Board, the additional information which is required, such as On-cost etc., cannot be considered as revealing any vital information. At any rate, the Committee would desire this matter to be examined in greater detail as already promised by the Ministry of Railways.*

22. In this connection, the Committee observe that the information required for a complete review and analysis of working of

*The Railway Ministry have subsequently intimated that, in consultation with other Ministries, they have decided to publish the necessary statistics regarding Railway Workshops.

the workshops are not only not available with the Board, but some of them appear to be not available even on the Railways. The Committee had sought certain information such as Cost of Repairs, out-turn, mileage performed by engines before they were taken up for overhaul etc. in respect of the major workshops. It appears that a considerable amount of this information in respect of some of the workshops is not available even with the Railways. In their review of workshop performances which will be made by the Committee in their Report on "Finance and Accounts" specific instances of these will be given. It is clear, however, that very little comparative over-all review appears to be made of the outturn of the workshops on the basis of statistical information. The Committee would like this matter to be examined and steps taken for proper instructions being issued in regard to compilation of workshops statistics and their use in the Railways and in the Railway Board's office.

23. The Committee observe that in many cases where important statistics were required by them, the Board have had invariably to address the various Railways even where the information required was for previous periods. Much delay was encountered in obtaining the requisite information, and in many cases the Railways were unable to supply them. As already stated, statistics regarding workshops performances is only one instance to the point. Other instances are information regarding disposal of scrap material, cost of statistical compilation, arrears of track renewal zone-wise etc. The Committee consider that such information should ordinarily be available in the Board's office and steps should be taken for obtaining this information regularly. The Committee are of the view that one of the most important duties of the statistical adviser of the Board would be to study all the statistical information collected by the Railways, to examine their reviews, analyse the performances and advise the Board whenever serious deteriorations occur.

24. The Committee would, in this connection, refer to the difficulties they have experienced in obtaining information regarding the working of the various ex-State Railways prior to their merger with the Railways. The records of these Railways do not appear to have been maintained satisfactorily, as the Railway Ministry after considerable search could supply only a few even of the Administration Reports of these Railways. The Committee feel that such important records should have been treated as historical legacies to be carefully preserved and made available to research students and economic investigators. All such important records should be kept in well organised libraries, either at the Centre or on the Zonal Railways.

VI

A SCHEME FOR A STATISTICAL BUREAU

25. Parliament, the public and the business and commercial interests have begun to take an interest in all the varied aspects of the working of the Railways all over the country. This necessitates all statistical information compiled by the Railways being available at one central place. For the purposes of formulating the Plan, and for watching its progress from over-all position, the Railway Board itself is bound to require much information, which if sought from the Railway only when any specific problem arises would result in considerable delays. The need for a well-organised central Statistical Bureau obtaining all the compilations from the various Railways, and keeping them in record for a ready reference becomes clear. The Committee desire that this matter should be examined in greater detail and a Bureau organised on these lines. The Bureau should have a well-stocked Library attached to it, and there should be a Research Section engaged in the task of making studies, not only regularly and periodically on specific items of working but also on special subjects. The studies should not only cover the working of individual Railways or units, but should extend to comparative studies as between the various units, and between the Indian and foreign Railways. The Bureau and its Research Organisation should also undertake studies of special problems for compilation of statistics on the Railways. The examination of such problems, as the relation between transport and industrial development, the needs of under-developed areas in the country, evaluation of the progress of the Railway plan etc. should all be functions of the Bureau, whose activities would extend therefore to economic fields also. The Bureau should bring out periodical reviews on the lines of the British Transport Review and should help in all possible ways in disseminating information to the public on Railway working. The Bureau may also study the variations of performances by the application of modern statistical techniques. They may examine how far the present system of judging performance by setting off the figures of one period against those of another and of working out targets on the basis of previous best performance are satisfactory and what improvements are possible by more scientific analysis. They may evolve modern scientific procedure, such as random sampling for assessing the accuracy of absolute statistics pertaining to netton miles, total wagon miles etc., and their zonal distribution. Additional functions which could be assigned to the Bureau such as undertaking Cost-Finding Analyses in various aspects of

economics of transport are discussed elsewhere in this Report, and will also be discussed in our Report on Finance and Accounts.

It is necessary also that small research and investigation cells of this nature should be constituted in the Zonal Railways. In the report on Finance and Accounts, a reference will be found to an assurance given to the Committee by the Financial Commissioner of Railways that organisations will be set up in the Accounts Department of the Railways for undertaking research and studies on the various economic aspects of Rail Transport in the country. The Committee consider that these cells should also undertake comparative studies of the statistics of performance and be generally responsible for all interpretation of statistics on the Railway. They should act both as friendly critics and as guides to the operating, engineering and other officials. They should bring out the results of their studies regularly and periodically. Such studies should also be available to the general public wherever possible.

VII

EXTENT OF UTILISATION AND INTERPRETATION OF STATISTICS

26. In connection with the use made of the Statistics, the Wedgwood Committee made the following remarks:

“Whilst we regard it as important that a revision of statistics should be undertaken on the initiative of the Railway Board, it is much more important that adequate and proper use should be made of the statistics compiled. This is regrettably not the case at present except on the four railways which have Statistical Officers as part of their organisation. On the other railways and in the Railway Board's office, the effect of retrenchment is obvious since it has led to an enforced neglect of statistics on the side of interpretation”.

* * * *

“It is an unwarrantable waste of energy and money to prepare every month and every year volumes of statistics which are put to little or no use. It is also a serious handicap both to the Railway Board and to individual administrations that they should lack the means of applying statistical control to the directions and management of the railway undertakings.”

27. The Kunzru Committee had stated that proper use was not being made of the statistics either in the Board's office or in the Railways at that time. In this connection, the Committee had also remarked that there was no adequate machinery for an examination of the statistics of performances in conjunction with those of expenditure. They had also observed that action had not till then been taken on the Wedgwood Committee's recommendation, that “the existing system of statistics should be reviewed with the object of increasing their usefulness and reducing the cost of compilation”.

28. It appears that the position regarding interpretation and use of the statistics has not improved since then. The committee do not find that overall and integrated studies of the various aspects of the working of Railways are being regularly and systematically prepared and utilised periodically, though, whenever any special problems arise, such studies are being made. The various monthly and

annual publications of the Board are not accompanied by notes discussing the implications of the published statistics. Comparison is not being made of the performances of the various units with a view to pin-pointing attention upon the directions in which improvement is possible. Though both the Wedgwood and the Kunzru Committees have recognised the utility of the statistics for purpose of inter-railway comparison, there is very little use made of the statistics in this direction and it has been frequently explained by the Ministry to the Committee that such a comparison is not possible on account of the variations in conditions. Since the same argument would apply to the performances of smaller units also, this may lead to the conclusion that no comparison between the various units is possible at all. The Committee do not accept this contention and are of the view that such a comparison is possible. In regard to the utility of a comparative study of Coal Consumption Statistics of the various Railways which show wide variations, the Board have remarked:

“The figures of coal consumption on each railway are carefully scrutinised against their performances for previous months and previous years. Cases of increased consumption are taken up where necessary. As conditions vary from railway to railway normal comparison of inter-railway figures is not possible but this is also undertaken when it provides a comparable basis.”

Variations in conditions will naturally exist, but it is the function of qualified and trained statistician, in collaboration with the departmental officials to assess these conditions and to determine the norms of performance under the varying conditions. Corrective factors ought to be worked out, to the extent possible, for these conditions with reference to which standardisation would be possible. In the absence of this it would be easy for the officials responsible to explain the fall in the performance as being due to certain general conditions over which they could claim they had no control whatsoever. This would, in turn, lead to a defeatist attitude. Moreover, unless such thorough analyses are carried out, and norms and deviation factors worked out, worthwhile targets cannot be fixed, and failure to work to targets even where they are fixed could always be explained away by general terms. Comparative statistical analyses provide the administration with important tools for an effective control and a failure to make a correct assessment of varying conditions deprives him of the means for effective supervision. The Committee consider, therefore, that comparative studies of inter-railway performances should be undertaken and all explanations for variations should, as far as possible, be drawn up in quantitative terms for which norms are to be worked out and various factors

determined by experts in the matter. The Committee are glad to observe that the Railway Board have now agreed to have such studies undertaken by the Economic Adviser and hope that there will be no delay in instituting such studies, and in making the results of such studies as far as possible, widely known.

29. It would also be worthwhile quoting the comments of the Kunzru Committee on this. They said:

"It has often been said that little use can be made of the yearly statistics as they are very old and yearly comparisons are of little practical advantage. We do not entirely agree with these remarks. On the contrary we consider that the annual figures provide a comprehensive survey of railway working year by year and are useful.

* * * * *

"The advantage of these compilations in the Board's office lies in their making inter-railway comparisons possible. These comparisons are advantageous provided that the statistics are not ancient by the time they are published, and that they are regularly reviewed in the Railway Board's office.

30. In this connection the Committee would refer to a number of comparative studies carried out by them on the statistics of the various aspects of performance of the Railways. The details of these studies and the conclusions thereon are given in subsequent paras of this Report. The Committee would refer here only to one or two general conclusions drawn as a result of these studies. For example, the Committee have noticed that the units of performance on which efficiency is judged at present such as Net Ton Miles per Engine Hour require examination with a view to seeing whether they provide a satisfactory basis for judgement in view of recent developments. As is well known, the Railways have been steadily acquiring Engines of greater tractive effort, so that the present unit of comparison of goods train performances, viz. Net Ton Miles per Engine Hour without taking into account the increase in Tractive Effort per Engine does not provide a correct picture. In their study the Committee have indicated how this factor affects performance. The Committee, therefore, feel as a result of their studies that there is a need for a review of the units of performance on the basis of which the results of railway working can be judged.

31. Again, the Committee were given explanations for a fall in performance wherever occurring in certain general terms. In many of these cases a quantitative assessment of the variation is possible but has not been undertaken. For example, a fall in rolling stock performance has been explained as due to increase in over-aged

stock. But a quantitative assessment of the extent to which this factor operated has not been made though it should have been easily possible and if made it may lead to interesting conclusions. The Committee themselves were not able to do this as the relevant figures were not furnished to them. These are but some of the directions in which comparative studies could prove useful and as already stated the Committee hope that such studies would be undertaken without much delay.

32. The Committee would now refer to the other comment of the Kunzru Committee namely, that there is no adequate machinery for an examination of the statistics of performances in conjunction with those of expenditure. The Committee attach great importance to such an examination and are unhappy to note that in none of the statistical analyses supplied to them by the Board has any attempt at such an examination been made. It is very essential that wherever possible the money value of variations in performance should be worked out. In the studies undertaken by the Committee which are referred to in subsequent chapters, they have indicated some of the directions in which statistics of performance could be studied in conjunction with expenditure. They feel that it should be possible for the railways to work out other similar cases to undertake a large number of such studies and to publish the results thereof along with the statistical information. This would give a more comprehensive view of the results of working. At the same time it would help in bringing home to the officials the financial results of the operations for which they are responsible.

33. The Kunzru Committee had recommended the preparation of a Statistical Manual in order to facilitate the compilation and use of statistics. They had suggested that it should be not only a Manual of Instructions, but should set forth the meaning of the various units and the methods of employing them intelligently. They had also pointed out that such a Manual had been in use formerly on the North Western Railway. Though seven years have elapsed the present position is that the Board could only report a beginning in this direction. It appears that a Manual of Instructions for the annual statistics is under print, but a similar Manual for the monthly and periodical statistics is still to be undertaken. And nothing seems to have been done so far in respect of the other and more important suggestion contained in the Kunzru Committee's recommendation, viz. that the Manual should set forth the methods for employing the statistics intelligently. The Committee consider the position most unsatisfactory and are not convinced with the reasons offered for the delay, which the Ministry of Railways have now communicated to the Committee, namely that it is due to various

administrative problems, which the Railways had to cope with during the period of regrouping of Railways, integration of State Railways etc. They desire that the Statistical Manual should be drawn up now on the lines recommended by the Kunzru Committee without any further delay.

NOTE: A Manual of instructions in connection with the compilation of Annual Statistics of Railways has since been issued by the **Ministry of Railways.**

VIII

STATISTICS FOR MANAGERIAL CONTROL—COST FINDING

34. The Kunzru Committee had pointed out that some of the Railways had at that time attempted to calculate dependent costs but that the results were not reliable. That Committee had recommended that a more accurate method should be devised. It is perhaps necessary in this connection to have a review of the classification of accounts on the Railways. Such a review is also necessary in view of the fact that the accounts as at present compiled do not help much in many aspects of managerial control. For example, the Committee had desired to know the cost of statistical compilation on the Railways, that is, the cost of staff engaged in statistical work, the cost of printing and stationery, the cost of maintenance and equipment etc. From the compiled accounts, the Committee noticed that it is not possible to arrive at such a break-up of costs. In this connection the Committee would refer to two extracts from a note presented to them by the Ministry which reads as follows:

"In the U.S.A. steps have doubtless been taken to carry forward costing in respect of railway traffics to a degree not attempted elsewhere.

To achieve this, they have had, of necessity, as a first step, to keep their accounts in far greater detail than we have so far done. Wages of staff are separately booked according to the nature of work performed by them. Track costs including maintenance costs, are booked according as the line is used wholly for goods traffic or passenger traffic, wholly for local originating and terminating traffic or passing through traffic etc.

Such refinement in our accounts we have not so far attempted and it will take at least a couple of years to initiate and implement such detailed accounting and thereafter only can we attempt at any cost finding in the same manner as they have done."

"Till recently, as far as is known here, the published statistics of English Railways in regard to costs were even more meagre than those in our country, though during the last three or four years, they have also commenced to pay greater attention to cost finding".

As indicated earlier, any refinements in cost finding must be preceded by inauguration of more detailed accounting. It is doubtless a direction in which we should endeavour to move.

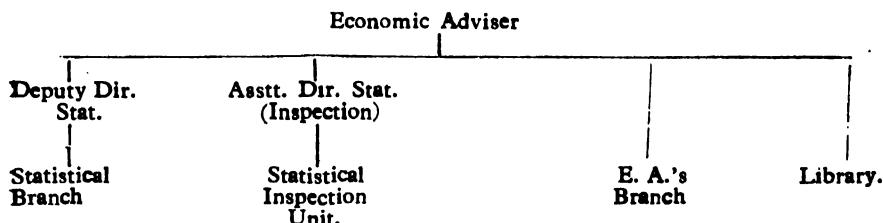
The Committee would, therefore, recommend that this matter should be gone into in further detail and such revision as may be required in accounting, undertaken so as to give necessary statistics which, in turn, must be fully utilised for purposes of interpretation and comparative studies.

35. From the report of the Economic Adviser to the Railway Board, who had been deputed to examine the economic and statistical studies of current transport problems on the Canadian and American Railways and the utilisation to which they are put, the Committee have noticed that considerable amount of cost analysis is carried on by these railways and much use thereof is made in the operation and management. The Committee desire that the Statistical Bureau, the setting up of which they have recommended elsewhere, should also undertake such studies and, as far as possible, make available the results of their studies to the public. The Committee will refer to the subject again and in greater detail on their Report on Finance and Accounts.

IX

ORGANISATION FOR COMPILATION AND INTERPRETATION OF STATISTICS

36. The organisation for the compilation and interpretation of statistics in the Railway Board's office is the Statistical Branch under the Economic Adviser. The details of the organisation are shown in the chart reproduced below:—



Compilation

37. No original compilation work is as yet undertaken by the Railway Board. Statistical reports and information received from the different Railways in accordance with the Board's instructions are consolidated and processed further for gaugewise totals and averages and for the grand totals for all Railways. These are collated finally into the different statistical publications of the Railway Board.

38. The organisation for statistical compilation on the Zonal Railways generally is in charge of a Statistical Officer assisted by a compilation Officer functioning directly under the General Manager. There are certain differences regarding the location of the Statistical Offices. It is only on the present Easter and South-Eastern Railways that the statistical offices are functioning at their respective principal headquarters offices. On other Railways there has been a dispersal of the compilation work among two or three offices located at different places on grounds of administrative convenience at the time of regrouping.

39. On the Southern Railway compilation is being done partially at Madras, Trichinopoly and Mysore. On the Central Railway, the work is distributed between the headquarters office at Bombay and

at Secunderabad. On the Western Railway, the work is mainly done at Ajmer. On the Northern Railway, the compilation is done partly in Delhi, Jullundur and Jodhpur. On the North-Eastern Railway, the work is being done partially at Gorakhpur and partially at Calcutta. These Compilation Offices on the Railways undertake only the processing of certain important types of statistics, namely, operating and commercial statistics, which between them constitute at present the bulk of the statistical information supplied to the Railways and the Board. A certain amount of compiling work is also linked up with the work of other offices. The actual compilation of the statistics reported for accidents, claims, marshalling yard operations, terminal operations, rolling stock, workshops, staff, etc. is undertaken by the Departments concerned although in many cases these may be finalised and reported by the Statistical and Compilation Offices.

40. In the case of projects, such as the Chittaranjan Locomotive Works, workshops etc. the statistics of staff and the statistics of accidents resulting in fatalities and casualties, as defined in the instructions for the compilation of statistics of accidents on Indian Railways, come within the scope of the statistical instructions of the Railway Board.

Interpretation

41. The Economic Adviser assisted by the Deputy Director, Statistics, is in charge of the interpretation of statistics handled by the Statistical Branch of the Railway Board. From time to time, assessments are made of the trends of earnings, wagon loadings, operating performance, etc. One of the periodical reviews, in which questions of safety and maintenance of safe working are regularly examined by the Board, is the "Monthly Review of the Accident Statistics".

42. On the Railways, there is no sharp line between the organisation for the compilation of statistics and the organisation for the interpretation of statistics. For all practical purposes the organisation for interpretation of statistics has tended to remain with the Compilation Organisation. Statistical Officers are expected to undertake as part of their general duties the work of interpretation of statistics. The Departments engaged in the activities concerned are generally relied on for the interpretation of statistics compiled by them.

43. The following statement would give a general idea of the organisation of the Statistical Offices on the Railways:—

Officers in the Railway Statistical Organisation

Railway	Statistical Officer (senior scale)	Compilation Officer (Class II)
Northern	I	I
North-Eastern	I	I
Western	I	I
Central	I	I
Southern	I	..
Eastern	2*
South-Eastern	I	..

*I Assistant Statistical Officer and I Compilation Officer.

44. There is no definite organisation for compilation and interpretation as such at the regional, divisional and district levels. Only on the Central Railway, a limited amount of compilation of operating statistics is being handled in the Transportation Department in the Divisional Headquarters. But the main corpus of statistical information relating to the operations of the region, division or district, as the case may be, is compiled, processed and consolidated by the Compilation Office, and distributed to the Regional/Divisional Offices in the form of Domestic Statistics for appropriate study and action on the part of the respective authorities.

45. The Wedgwood Committee had noticed the difference prevailing on the Railways in regard to the organisation for the compilation and the interpretation of statistics. At that time the Railways had two distinct systems of organisation of dealing with statistics. On some of the Railways the compilation was carried on in the Accounts Department and interpretation was undertaken either under Deputy Agents or was left to the departments. The Wedgwood Committee were not in favour of changing the position as it then existed. The Kunzru Committee had recommended the organisation of the South Indian Railways where a Statistical Officer was made responsible both for compiling and for interpreting the

statistics of the Railways other than the day to day statistics compiled in the Traffic Control Office for the use of the Traffic Officers.

46. It appears, however, that action has not yet been taken to organise the statistical branches in the various Railways in accordance with the recommendations of the Kunzru Committee, and it has been explained that due to the existence of organisational differences on the Railways, it has not yet been found possible to standardise various forms of all the Railways when alone the compilation procedure could be made uniform. Over seven years have elapsed since the recommendations for the improvement of the compilation procedure on the various Railways were made by the Kunzru Committee. It is, therefore, imperative that there is no further delay in introducing these changes.

47. The Committee have already expressed the feeling that, both on the Zonal Railways and in the Railway Board, more attention is paid in the matter of statistics to the compilation work, than to that of interpretation and use without which compilation by itself has no value. This has probably been occasioned by many factors. Firstly the problems of compilation are by themselves considerable and have been made more complicated by administrative and organisational difficulties. Consequently the energy of the statistical officer has been entirely taken up in solving the problems of compilation. Secondly, much of the interpretation work has been left to the Departmental Officers who are, even as it is, sufficiently burdened with their normal operating, engineering or commercial problems, as the case may be. They can, therefore, have little time or interest to carry out statistical studies, especially where the studies are likely to reveal poor performance results. Thirdly, by leaving interpretation work to various Departmental Officers who are concerned only with their own items of work, overall survey is made difficult as it can only be undertaken by a person who is a little removed from the heat and strife of action and who has the time and opportunity to devote his attention for the same.

48. The Committee feel that in the present circumstances, the officer charged with the work of interpretation should not be burdened also with that of compilation. The Committee have already indicated that this function should be assigned to the economic research cell which is proposed to be organised on the Railways under the Finance and Accounts Department. Even ordinarily this department is in close touch with every aspect of Railway working and it is, therefore, the best suited for this purpose as many of the former Company and State managed Railways found. Moreover, this will also have the effect of placing sufficient emphasis on financial aspects of the performances, a requirement on which the Kunzru

Committee laid considerable stress. Since in the present organisational set up on the Railways, there are two officers, one for compilation and another for interpretation, in the proposed set up, the Compilation Branch need have only one junior officer and the senior post that is thus rendered surplus could be utilised in the economic research cell.

49. The Wedgwood Committee have referred to the qualifications necessary for a good Statistical Officer in the Board's office in the following terms:—

"His duties should be to measure the effect of new policies or experiments, to co-ordinate the statistical work on the Railways and generally to afford guidance in statistical matters to Railway Administrations. It is essential that he should possess the requisite experience and he should have a status that would enable him to make the fullest use of his special qualifications. We should like to see him stand in his relation to the Agents more as a consultant than as a critic."

With suitable amendments, these remarks would also apply to the qualifications to be found in the officer whose function it is to interpret statistics on the Railways.

50. The Committee hope therefore that in choosing the Officers for interpretation of statistics in the economic research cells on the Railways and in the Railway Board, due attention is given to these recommendations, and only officers of proven ability and considerable experience and knowledge of all aspects of Railway working are chosen for the purpose. Trained statisticians should also be attached to these cells to enable them to solve problems of a purely technical nature in the compilation and interpretation of statistics.

51. In this connection the Committee would refer to the difficulties experienced by them in obtaining information regarding the expenditure since 1951-52 incurred by the Railways on their statistical organisation under the following general heads, namely:

- cost of staff,
- cost of Stationery, stores etc.,
- cost of printing and
- cost of maintenance of equipment etc.

The information was not supplied to them till the drafting of the Report and it is clear that due to the defects in classification and accounting of expenditure, this important information except in respect of staff costs, cannot be obtained. Though the expenditure

on staff is booked by the Railways separately in their accounts, it is not readily available from any of the printed publications. The Railway Board does not also obtain these figures regularly from the Railways. As for the other items of expenditures, they are not separately booked in accounts and are therefore not at all available. This indicates a direction in which the classification of accounts in the Railways requires revision so that information vital for managerial control, is readily available. The steps to be taken in this direction are discussed by the Committee elsewhere.

Note: The Railway Board has since furnished the required figures. The number of staff employed in the Statistical Branches of Railways and in the Railway Board on 31st March, 1955 was over 2,000 and the cost of staff and the cost of stationery and forms, printing and publications, office machinery and office equipment was about Rs. 50 lakhs during 1954-55.

52. The Committee were given to understand that one cause for the delay in the compilation of statistics was the inexperience of the staff engaged in the work of initial compilation. With the great expansion in the activities of the Railways and with the increase in the number of staff, the number of inexperienced staff is considerable in all the Departments of the Railways, and this problem is not peculiar to the Statistical Branch alone. The question of giving suitable training to the staff engaged in statistical work becomes of the first importance and the Committee consider that with suitable training, many of these difficulties could be overcome. They desire that the Railways should work out a detailed plan for training of the staff. It should also be seen that during the course of this training, the staff are made to realise the uses to which statistics are put on the Railways and the part that their work plays in the whole framework.

53. As regards the officers of the supervisory staff, the Staff College, Baroda should serve as a means for imparting knowledge of statistical procedure and use. Arrangements should also be made for special training for such officers in educational institutions such as the Indian Statistical Institute, Calcutta.

The extent to which foreign Railways use their statistics, has been studied, as far as Canadian and the American Railways are concerned, by the Economic Adviser to the Ministry of Railways. His recommendations in this regard for undertaking similar studies by the Railway Ministry have been formulated in his Report which was submitted in 1954 and is still under consideration by the Board. The Committee hope that action on the report would be taken at

an early date by the Ministry of Railways. In this connection the Committee would suggest that similar studies of the compilation and use of statistics on other foreign Railways, more especially the Japanese, which the Committee are given to understand have a very good system in this matter, should be undertaken by the deputation of few suitable senior officials to those countries.

X

COAL CONSUMPTION STATISTICS

54. The Indian Railways consume annually over 11 million tons of coal valued at over Rs. 30 crores for various purposes. Over 83·5 per cent (value over 25 crores) of this is consumed for loco purposes, that is for the purpose of generating power on locomotives. Over 9·5 per cent (value over 2·85 crores) of the remainder is consumed in Pumping Stations, Power Houses, Workshops etc., and the remainder (value over 2·15 crores) is lost by pilferage and during handling etc.

55. The Railway Fuel Economy Enquiry Committee known as the 'Driver Committee' which submitted their Report to the Railway Board in March, 1953, have examined in detail amongst other matters, the measures that could be taken by the Railways for effecting economy in consumption and for preventing the losses. They had also recommended various measures to be taken for revising the system of fuel accounts on the Railways and for enlarging the scope of railway fuel statistics, so that the effect of the various direct and indirect factors affecting the coal consumption are adequately brought out in the statistical figures.

56. A summary of the recommendations contained in Chapter XII and XIII of the Report of that Committee and the action taken so far by the Railway Board to implement their recommendations is placed as Appendix V of this Report.

57. That Committee had classified the various direct and indirect factors which affect the consumption in locomotives as follows:

(a) *Direct factors:*

(i) Quality of coal.

(ii) Firing conditions.

(iii) Quality of water.

(iv) Mechanical condition of locomotives and other rolling stock.

(v) Conditions of track and Engineering works.

(vi) Engine failures, wagon hot boxes and sick vehicles.

(vii) Locomotive design.

(viii) Fuel Saving Devices.

(b) *Indirect factors:*

- (i) Load-speed schedules.
- (ii) Locomotive service links and intensive utilisation of power.
- (iii) Working of goods trains and trains control.
- (iv) Traffic conditions and train marshalling orders in yard working.

The direct factors relate principally to the quality of coal and water and to the design and standard of maintenance of locomotives and the indirect factors relate to the methods of operation and utilisation of locomotive power. The Committee had worked out the extent to which these factors operate to increase the consumption of coal and have assessed that a saving of 20% in coal consumption would be possible if suitable measures are taken to limit the effect of the various controlling factors. A Table given in the Report showing at a glance the extent of economy that can be achieved by the various measures discussed by them is reproduced below:

Estimates of fuel savings on 100 tons of Railway coal supplies

Category	Consumption in tons	Controlling factors	Scope for economy	Estimated saving in tons
Loco Coal:				
(a) In actual trains movements (approximately 80%)	67.0	(i) Quality of coal and water and firing conditions	5 to 15% average 8%	
(b) In shed and incidental services (approximately 20%)	16.5	(ii) Maintenance of locomotives and other rolling stock	5 to 10% average 6%	
		(iii) Utilisation of loco power	5 to 10% average 6%	
TOTAL	83.5	tons $(1 - 0.92 \times 0.94 \times 0.94) \times 100 = 18.7\%$		15.6
Non-loco Coal :				
(a) Pumping Stations (25%)	2.38	Consumption units determined by regular trials	20%	1.9
(b) Electric Power Houses (40%)	3.8			
(c) Mechanical Workshops and Engineering Departments (15%)	1.42			
(d) Miscellaneous (20%)	1.9			
	9.5			

Category	Consumption in tons	Controlling factors	Scope for economy	Estimated saving in tons
<i>Losses :</i>				
(a) Pilferage	3.8	(i) Supply conditions (ii) Mechanical protecting devices for open wagons. (iii) Fenced enclosures	50%	1.9
(b) Coal handling	2.1	(i) Supply conditions (ii) Care in loading and unloading (iii) proper stocking conditions	25%	0.8
All Categories		98.9		20.2

It has been stated by the Ministry of Railways that due to the change-over from caking to non-caking coals and due to increase in heavy coal consumption services, the actual extent of savings possible would decrease. The exact amount thereof should be worked out by the Railway Ministry and applied, as and when such changes occur.

58. The economy measures suggested by the Driver Committee may be classified under three categories as follows:—

- (i) these which are related to conditions over which the Railway Ministry have no control, such as the quality of coal, mode and sources of supply etc;
- (ii) long term measures which the Railways could institute in their working such as improved locomotive designs, fuel saving devices, improvements in locomotive maintenance standards etc.
- (iii) those which the Railway could take in hand immediately. These are mostly the indirect factors and require a review to be undertaken by the Railways of their modes of operational working with a view to improving them on the lines suggested by the Committee.

59. It will be seen from the Table given above that of the loco coal, that coal utilized in the actual operating services of the Railways, 12% or so could be saved by the various measures over which the Railway has control, 6% more could be saved by long term measures such as improving the maintenance of locomotives and other rolling stock, and 6% by measures that could be taken in hand immediately, such as improved utilisation of loco power. In

respect of non-loco coal and losses due to pilferage and coal handling, such a break-up of percentages that could be saved by long term and short term measures are not possible. But about one-fifth of the total consumption under these heads could be said to represent fairly the amount which in the view of that Committee, could be saved by economy measures in these directions.

60. In short, therefore, out of every 100 tons of coal consumed, 13.1 tons could be saved by measures over which the Railways themselves have full control. Approximately half of these are measures the implementation of which the Railways should have been in a position to undertake shortly after the submission of the Report. The Estimates Committee have, however, been informed that the action taken so far to implement the recommendations of that Committee is as follows:—

“The various suggestions made by the Committee for exercising check on consumption have been examined and the Railways have been instructed that:

- (a) Special emphasis should be placed on elimination of wastage of steam through leaks in order to achieve economy in fuel; and
- (b) measures should be taken to improve supervision on operation and maintenance in Power Houses.”

61. As regards the Driver Committee's suggestion for fixation of consumption units of coke in Mechanical Workshops and of coal for shunting and trial locomotives, it has been stated that “the views of the Railways regarding the practicability and accuracy of these suggestions have been called for.” That Committee had pointed out that the consumption of coal and coke in Mechanical Workshops and Engineering Departments of the Railways averages 15% of the total consumption in non-loco performances and that the annual expenditure on this account is roughly Rs. 40 lakhs. The Committee had accordingly suggested that consumption units should be prescribed as a guide for scrutinising consumption on the basis of shunting hours, hours of consuming and hourly rating for crane, boilers etc. The Committee fail to see why a more vigorous action directing the Railways to fix such units and compare performances against these units, could not have been taken instead of calling for their views regarding the “practicability and accuracy of these suggestions.”

62. The Driver Committee had also suggested various measures for the training of drivers and firemen in the efficient handling of coal. But it appears that not much progress has been made in this direction.

63. It would appear from the evidence tendered before the Estimates Committee that the Railway Ministry is of the view that substantial economies in the consumption of coal can be expected only when the question of quality and rationalisation of supply of coal is finalised by the Production Ministry on the lines suggested by the Railway Fuel Economy Enquiry Committee, and till such time as that is done, no improvement is possible. This is to ignore the other important recommendations to which we have referred above, and the Committee desire that the Railway Ministry should undertake a more vigorous examination immediately of the other measures recommended by the Driver Committee, including the recommendations for the training of the drivers and firemen in the efficient utilisation of coal. That Committee's Report was submitted nearly 2 years ago and it would have been expected that by now vigorous measures would have been taken and some results achieved thereby. Now that the various additional staff have been appointed in the Board's office and in the various Railways, the Committee hope that there will be no further postponement of the necessary action.

64. The Driver Committee were aware of the difficulties in supervising and watching the results of the control measures for effecting economy and had made various suggestions therefor. The Committee had referred to this matter as follows:

"From the fuel consumption and train operation statistics, as prepared at present, it is not possible to demarcate the causes of unusual fluctuations in coal consumption or operational efficiency. For instance, it is not possible to ascertain from the statistics relating to a particular year, whether the increased consumption during that year arises from—

- (i) low locomotive performance, (which in turn may be due to several causes or any one of them e.g., poor mechanical conditions of locomotives, inexperienced engine crew, poor quality of coal, etc.);
- (ii) wasteful consumption of coal in shed services; and
- (iii) uneconomic utilisation of locomotive power."

65. That Committee had accordingly made various important suggestions for the improvement of the Fuel statistics. For example, they had suggested that:

- (i) the statistics of coal consumption in operating services, which at present is expressed as one figure in terms of "lbs. per thousand gross ton miles" and "per engine

mile" should be split up into two, showing separately the consumption in actual train operation, for given loads and time schedules etc., and the additional consumption due to other various factors affecting operation, showing thereby, the effect of controllable and non-controllable factors separately.

- (ii) the fuel statistics should be rationalised by the introduction of a separate section, covering consumption of coal in shed services. The shed fuel statistics should show separately, the consumption of coal in (i) "lighting up fire", (ii) "banking fire" etc.
- (iii) Rationalisation of service groups to admit of proper control of fuel consumption on each service units such as Mail and Express.
- (iv) Maintenance of statistical "figures of merit" whereby it should be possible to judge the quality of coal received and assigned to different services, and by the application thereof to determine the effect of coal supply on consumption.

66. The Estimates Committee regret to observe that with the exception of item (iii), the other recommendations have not been satisfactorily implemented so far. The statistics compiled by the Railways have not yet begun to show the break-up of coal consumption on the train services according to the actual train operation *vide* item (i) above, nor has any step been taken for the maintenance of sheds statistics as recommended by the Driver Committee [item (ii)]. In regard to the latter, it has been stated that this is not possible with the organisation available but that the Railways have been instructed to pay careful attention to economy in the use of coal for shed services. This is very unsatisfactory. The Committee would have expected that steps would have been taken to make whatever changes were necessary in the organisation and that clear instructions would have been issued by the Board to the various Railways in this matter.

67. The Committee hope that the Railway Ministry would give their serious attention to these matters early.

68. In this connection the Committee would refer to a suggestion made by them that in view of the considerable variations that exist between the coal consumption statistics of the various Railways on the same services, a comparative study of these figures should enable effective economies, but they have been informed by the

Board, that such inter-railway comparison on a regular and normal basis would not be of any utility. The Board has stated:

“The figures of coal consumption on each railway are carefully scrutinised against their performance for previous months and for previous years. Cases of increased consumption are taken up where necessary. As conditions vary from railway to railway, normal comparison of inter-railway figures is not possible but this is also undertaken when it provides a comparable basis.”

It is to provide for these contingencies that the Railway Fuel Economy Enquiry Committee had suggested that certain changes should be introduced in the compilation of fuel statistics and that the scope of the statistics should be enlarged to bring out the effect of various direct and indirect factors affecting coal consumption. The Committee hope that the significance of the Driver Committee's recommendations will now be fully appreciated, and that as soon as the procedure for compilation of statistics has been revised, the Ministry of Railways will be in a position to make an effective comparative study of the performance of the various Railways on the same services, which at present shows wide variations as will be seen from Statements 4 to 9 attached to the study notes on Fuel Consumption elsewhere in this Report.

XI

CERTAIN OPERATING STATISTICS

69. Various special investigations have been undertaken by the Efficiency Bureau of the Railway Ministry on the efficiency of operation on the Indian Railways and the measures to be taken in regard to their improvement. As a result of these studies, the Bureau had suggested *inter-alia* various measures for the improvement of statistics compiled on the Railways. For example, in connection with their report on speed of goods trains, they had suggested that "strict watch should be kept on:

- (a) percentage of trains having a late start;
- (b) causes of late starts, the extent to which the late starts are due to late materialisation of stock, late formation, improper selection of path and late availability of engine and crew;
- (c) detentions to trains due to yard congestion etc.;
- (d) time for loco requirements;
- (e) satisfactory loco watering arrangements;
- (f) wagon and engine difficulties of failures."

70. In connection with their report on Wagons under or awaiting Repairs in Sick Lines, etc., the Bureau had suggested that certain statistics of detention of wagons in sick yards, etc. should be collected. Again, in connection with their report on Transshipment at Break-of-gauge Points, the Bureau had mentioned that paucity of line capacity was an important reason for delay of transshipment, and had suggested a number of yards where line capacity should be increased.

71. If the results of Bureau's investigations are to be put to full use in the operation of the Railways, the statistics suggested by them and specified above should be maintained at various levels, and should form part of the Domestic Statistics as well as the Railway Board's statistics so that effective watch can be kept on the progress of the measures suggested by the Bureau. It appears, however, that steps have not yet been taken to compile these statistics. The Committee consider that this should be done without any further delay, and that there should be an effective co-ordination between the Efficiency Bureau and the Statistical Branch now and in future.

72. The Committee notice from the various analyses in regard to the operational difficulties at present felt on the Railways that there is great need for a provision of additional traffic facilities, and that Railways have undertaken to incur considerable expenditure on these facilities such as Marshalling Yards, Lengthening of Loop Lines, Signalling and inter-locking arrangements, doubling of lines, strengthening of Bridges etc. The amount of expenditure incurred annually on additional traffic facilities is, however, not classified in accounts according to the nature of the facilities. They have been brought together broadly under the heads Traffic facilities, Bridges, Signalling and inter-locking arrangements under the Accounts Heads Capital, Depreciation Reserve Fund, Development Fund and Open Line Works (Revenue). For an effective survey of the extent of the provision of these facilities, the expenditure should be readily available according to the nature of facilities. For example, detailed information of the expenditure on Marshalling Yards, or on Loop Lines, or on Improvement in Terminal facilities etc. incurred with a view to increasing traffic capacity, should be available at all levels so that effective control can be exercised. The Committee would refer to this matter again in their report on Finance and Accounts, and at this stage would merely stress the need for the compilation of detailed statistical information on these items of expenditure in the Domestic as well as the Railway Board's Statistics.

73. The classification of staff statistics to the extent that it is compiled at present, on the Railways and in the Railway Board's publication, namely Vol. II—Administration Report, does not show the number of staff according to the nature of duties performed. For example, the number of staff employed in various important marshalling yards could be classified and shown separately according to their duties such as staff directly connected with shunting and operational work, clerical staff, supervisory staff, etc. Similarly for the Districts, Divisions, Regions and Zonal Railways as a whole, the number of staff should be shown according to their functions. Unless there is this analysis of the figures, and a comparison thereof is made with the variation in performance of the particular phases of operation to which they are assigned, it is difficult to exercise any watch over the staff changes, and supervision becomes difficult. Effective control is possible at the higher levels only if the number and cost of staff on any particular operation are related to the performance of that operation. Steps should, therefore, be taken to examine the nature of staff statistics compiled at present with a view to effecting improvements in this direction.

74. There are two other directions in which improvement is called for. Firstly the Railways have for some time past adopted the policy of going in for heavier locomotives and wagons of greater capacity

in their new acquisitions. There has been consequently a steady rise in the Average Tractive Effort of the Engines on Line, and of the Average Capacity of the Wagons. But the effect of these are not taken into account at present in the statistics used for comparison of performance, such as Engines Miles per Day per Engine in use, Net Ton Miles per Engine Hour, Average Wagon Load etc. If the comparison of performance with previous periods is to be of any use, due weight should be given to these factors. In their studies on operation which are given elsewhere in this Report, the Committee have indicated one way in which this could be done, but it is possible other methods could also be evolved. The Committee desire that this should be studied carefully by the experts and the most satisfactory arrangements arrived at for future use.

75. The other aspect which requires careful examination is the need for drawing up satisfactory units of operation or of other aspects of working for comparing performance. Statement 30 of the Board's Administration Report, Vol. II works out the cost per unit of performance for the various phases of working such as cost of clothing per 1,000 train miles, cost of operating staff per 1,000 train miles etc. It would appear, however, that much use is not made of these comparative statistics because the base of comparison, namely, the unit of performance adopted in many cases is not felt to be satisfactory. Moreover, since such comparative statistics are not compiled for the District, Divisional or Zonal Organisations, explanations for variations can only be given in broad terms. If this is so, there appears to be every need for examining this matter in detail and for working out satisfactory units. Otherwise, not only is one method of effective supervisory control not available, but even the labour and time spent in compiling the present statistics is a mere waste. The Committee would refer to this matter again in their Report on Finance and Accounts.

76. In connection with certain queries on the extent of Locomotive Utilisation in recent years, the Railway Ministry had made the following remarks:

"The benefits arising out of an increased average tractive effort cannot be distributed over the entire system and full use can be made of the tractive effort only on these sections or services where such engines are specifically used, rendering the task of transportation and its ancillary services elsewhere more difficult and less economic, as the average engines have to do them in those other sections. No overall improvement can usually be achieved by administering to the needs of a particular sector to the neglect of other sectors. It has thus come

about that the full benefit could not be derived from the raising of the average tractive effort, as such types of engines could not cater for the entire needs of transportation. As such in arriving at any efficiency figure related to higher tractive effort a corresponding reduction should be made in the ratio of incidence of average engines."

It would be seen therefrom that Statistics of distribution of new locomotives over the different Zones, and the percentage thereof, as well as the amount of average stock on line on the various Zones constitute an important item for supervisory control. Such statistics should, therefore, be compiled and shown in the published Reports of the Railway Board. Similarly also, at lower levels of organisations, namely, the Districts, Regions etc., the corresponding figures should be shown in the Domestic Statistics.

FINAL CONCLUSIONS

77. The Committee have indicated in the preceding Chapters the inadequacy of the statistics compiled at present, and have pointed out that the statistics are not being properly interpreted and little use is being made of them. They have indicated some of the directions in which changes are necessary in the procedure and form of statistics and in the organisation for their compilation and interpretation.

78. There are, however, many other directions in which also changes are necessary. For example, it was pointed out to the Committee by a former Financial Commissioner of the Railways that the present compilation of revenue statistics requires many changes, in the context of the Second Five Year Plan. He has stated that the list of commodities for which revenue statistics are being maintained separately, and which was compiled years ago, would require revision now in view of the changes in the pattern of trade and commerce in the country. Again, the earnings statistics as at present compiled are of little use in assessing the effect of changes in freight rates. As an example, it was pointed out that the effect on earnings, if freight on coal was increased to any extent on the first, or any subsequent legs of the freight rate, cannot be assessed. In such a condition all changes in freight rates are made more or less without an awareness of the full financial effects.

79. The Committee have indicated the organisational and procedural changes necessary in the compilation and use of statistics. The details of this should be worked out by an Officer, who should be appointed without delay to work out a detailed procedure for the reorganisation and also a programme for its implementation.

80. In conclusion, the Committee would observe that, as the position is at present, the time and energy spent by the Railways in compiling their statistics is largely wasted. The statistics are insufficient and are put to little use by proper interpretation. Control is ineffective and the large volume of the statistics play little part in management control. There are many aspects of Railway working where there is scope for considerable economy in expenditure, and for effecting improvement of efficiency with resulting increase in earnings. These can only be explored if there is efficiency in the

compilation and use of statistics, but unfortunately this is not the case at present.

81. The total annual expenditure incurred by the Railways on their statistical organisations including the cost of stationery etc. is very large, running into many lakhs of rupees. Much of this is, as the position stands at present, infructuous and unless the recommendations made by the Committee for the improvement in the use of statistics are undertaken vigorously and without delay, the waste will continue.

BALVANTRAY G. MEHTA,
Chairman, Estimates Committee.

NEW DELHI;
The 8th March, 1956.

APPENDIX I

Extract from Report of the Indian Railway Enquiry Committee, 1937.

(WEDGWOOD COMMITTEE)

Statistics.

* * * * *

91. We have reviewed the system of statistics in use on the Indian state-owned railways and the organisation set up for their compilation and interpretation.

The statistics fall under two heads:—

- (a) those prepared by the Railway Board from data supplied by the railways;
- (b) those prepared by the railways for domestic use.

92. *Railway Board Statistics.*—The Railway Board statistics are published annually in Volume II of the Administration Report and certain of the figures are, in addition, worked up into periodical abstracts for circulation to the railways. The nature of these statistics and the manner of compilation are prescribed by the Railway Board.

We find that the railways make practically no use of Volume II. One objection is that it is not available until some ten months after the period to which it relates; another that comparisons are usually with the preceding year and the data are thus inadequate to show the trend of the results. Little use, too, appears to be made of the periodical abstracts, on the ground that differences in conditions between one railway and another detract from the value of the comparative figures. There is also a general suspicion, supported by some concrete examples, of lack of uniformity in the basis of compilation of Railway Board statistics.

In our opinion too much weight is given to these objections. It is admitted that Volume II can be improved, but even in its present form it provides a comprehensive survey of the results of railway administration year by year. Its practical use should be considerable in enabling Agents not only to watch the effect of long-term policies, but also to measure the efficiency of departmental work. There are, indeed, few phases of railway work which do not stand

to gain by well-informed application of the lessons to be drawn from the published statistics.

The periodical abstracts are of more doubtful value. Inter-railway comparisons at the best can furnish only a *prima facie* case for investigation, and annual figures are more generally useful than monthly figures for this purpose.

The compilation of statistics for the Railway Board is in the hands of the Controller of Railway Accounts, whilst their interpretation is one of the responsibilities of the Traffic Member of the Board. This seems a suitable arrangement.

93. *Domestic Statistics*.—Domestic statistics are prepared by the railways according to their individual needs. In this matter there is no attempt at uniformity.

The railways have two distinct systems of organisation, for dealing with statistics. The Bengal-Nagpur, Eastern Bengal Madras and Southern Mahratta and South Indian Railways each has a Statistical Officer who is responsible for both compilation and interpretation; while on the Assam-Bengal, Bombay Baroda and Central India, East Indian, Great Indian Peninsula and North Western Railways, compilation is carried out in the Accounts department and interpretation is under a Deputy Agent or is left to the departments.

We consider that the balance of advantage lies with the system of organisation under which a Statistical Officer is responsible both for compilation and interpretation. It is only this combination of duties which justifies the appointment of a full-time Statistical Officer. On the railways employing this system far more attention is being given to interpretation of statistics than on the railways where interpretation is, at the best, only a part-time function of a Deputy Agent.

This is due, however, less to the difference in organisation than to the lack of staff under the Agent's control capable of utilising the statistics prepared by the Accounts department. We consider that this is a weakness which should be remedied.

We do not suggest any change in organisation. Assuming in each case the existence of adequate, and properly qualified staff, a combination of compilation and interpretation is suitable for the smaller lines organised on a departmental basis, and the separation of the two functions is more suitable for the larger lines, particularly where organised on a divisional basis.

94. *Revision of Statistics*.—It is recommended that the system of statistics should be reviewed in accordance with present day needs.

The existing system dates from 1924. At that time of prosperity, when traffic came to the railways as a matter of course and road competition was unknown, it was natural that much importance should be attached to statistics relating to the working of the railways and relatively little to the character and volume of the business done. Viewed from the stand-point of to-day, there is not a fair balance between operating statistics and commercial statistics.

An illustration of this was submitted to us in evidence. Elaborate statistical records are kept of shunting operations, and the cost of these operations amounts on one of the railways to Rs. 7 lakhs a year. Against this there are traffics like sugar which yield a somewhat similar amount in revenue, but the only statistics in respect of these are the annual tonnage and gross receipts. It was claimed, and in our view properly, not that less attention should be given to the expenditure of Rs. 7 lakhs on shunting, but that more attention should be given to the sugar traffic, to its origin and destination, and to other information bearing upon the means of increasing it.

It does not appear that the discontinuance of any of the statistics at present prepared would enable any large saving to be made. Whatever alteration may be made in the style of presentation, the compilation of primary or fundamental units will continue to absorb the greater part of the total cost. We are, however, satisfied that a systematic review should point to certain statistics which can be discontinued and to others for which a simpler and cheaper method of compilation can be found.

95. *Unnecessary Statistics.*—Net passenger ton miles might be abandoned without regret; this statistic is used mainly in calculating coal consumption per 1,000 gross ton miles, and its exclusion could not have any material influence on the results.

Passenger zone statistics are at present prepared for the whole year in two six-monthly periods. The amount of work is considerable and it should be sufficient if this statistic is compiled for two representative months for each year.

Passenger station-to-station statistics were at one time compiled in respect of all pairs of stations, and bound annually in a volume of large dimensions. The Railway Board no longer require these statistics, but we are informed they are still being compiled by some of the railways. We do not think their usefulness is sufficient to justify the cost involved, and their compilation should be confined to selected stations where traffic is affected by road competition, or where exceptional circumstances exist.

96. Misleading Statistics.—Statement 15 of Volume II of the Administration Report is headed “Results of working Class I Railways”. It contains a column showing the total railway working expenses, followed by a column showing those expenses divided between coaching and goods services on the basis of gross ton miles. Then follow columns giving derived statistics, of which the following two groups are examples:—

Coaching earnings per train mile.

Cost of hauling a passenger train one mile.

Profit on working a passenger train one mile.

Average rate charged for carrying a ton of goods one mile
(Statement 13).

Cost of hauling a goods unit (*viz.* one ton) one mile.

Profit on working a goods unit (*viz.* one ton) one mile.

It may be admitted that “cost” statistics of this kind have a neat and compact appearance, and if they meant what they purport to mean there would be no criticism against them. But they do not; the expert critic can make no use of them, and they lead the non-expert to false conclusions.

The matter is of too technical a character to be discussed at length here. We suggest that consideration should be given to the discontinuance of these figures. We cannot believe they are found to be of any practical use to the management; and the evidence which was put before us on one or two occasions shows that they are certainly confusing to the public.

97. Suggested Additional Statistics.—On the other hand, there is scope for additional statistical information both to measure certain operations for which there are at present either inadequate statistics or none at all, and to afford guidance in commercial policy and practice.

A study of the variable costs incurred in connection with different classes of traffics would be of practical use to railway administrations. The enquiry might begin with export coal, since some doubt apparently exists as to whether the rates charged on this traffic cover the expenses incurred.

We have referred elsewhere (paragraph 63) to the desirability of booking goods trains in the working time tables and the working of goods trains should be measured by regular punctuality returns.

We have also referred (paragraphs 62 and 182) to the urgent need for giving better transit time, and this feature of railway working should also be the subject of statistical record by all railways.

Little attention, we find, is paid to the cost of working goods sheds and we consider that statistics should be available both as to handling costs (except possibly in cases where contract labour is employed) and as to clerical costs.

The advent of road competition has made it necessary for Commercial Officers to have early and reliable information concerning the flow of traffic between points susceptible to competition; this applies both to passenger and to goods traffic. We think that more could usefully be done in this direction.

The foregoing paragraphs are intended to indicate certain directions in which revision seems to be necessary or desirable. The question has been discussed in a general way with the railway administrations. As far as domestic statistics are concerned there is a readiness to adapt them to meet changes in circumstances, but this is not a universal attitude towards the Railway Board statistics. In some quarters, indeed, they are regarded as sacrosanct, and above criticism. But for the most part there is a desire, sometimes an eagerness, to find some opportunity for giving expression to ideas. No such opportunity exists at the moment.

98. *Conferences of Statistical Officers.*—There is at present no contact, except of a casual nature, between the railways on question of Statistical Officers, but these have been dropped on the ground of economy. We consider that these meetings should be revived and that their business should be conducted on the initiative of the Railway Board.

Most of the subjects to be dealt with at these meetings would, we conceive, fall under the following heads:—

- (a) *Revision, including abolition of unnecessary returns and adoption of new returns.*—This should be a gradual and continuous process directed, on lines already indicated, towards keeping the system of statistics in conformity with hanging needs.
- (b) *Uniformity.*—There should be complete uniformity in the basis of compilation of Railway Board statistics. This is not the case at present. In domestic statistics, greater uniformity is attainable than now exists and would be of advantage.
- (c) *Standardisation of statistical forms.*—There is room for considerable economy under this head, particularly as regards domestic statistics. The more uniformity is attained, the greater will the economy be.

Adequate preparation of the subject matter to be considered would be necessary in advance of the meetings, in order to enable maximum progress to be made.

Recommendations made at these meetings would be subject to approval by the Railway Board and the Agents, except in respect of matters falling within the authority of the Statistical Officers.

In a general way these periodical meetings would be valuable as providing opportunities for an exchange of views on the compilation and use of statistics. New ideas could be discussed, and methods which had proved their merit on one railway could be explained with a view to being more widely adopted. A pooling of specialised knowledge and experience could hardly fail to suggest possibilities of improvement which might not otherwise be attainable.

99. *Staff to Interpret Statistics.*—Whilst we regard it as important that a revision of statistics should be undertaken on the initiative of the Railway Board, it is much more important that adequate and proper use should be made of the statistics compiled. This is, regrettably, not the case at present, except on the four railways which have Statistical Officers as part of their organisation. On the other railways and in the Railway Board's office the effect of retrenchment is obvious since it has led to an enforced neglect of statistics on the side of interpretation. It has been admitted to us that with the abolition of Statistical Officers on railways there are now very few officers who are thoroughly conversant with statistics, and that since the abolition of a Statistical Officer in the Board's office it has become impossible to deal adequately with this question.

This is a case where it seems to us that retrenchment was a shortsighted Policy. It is an unwarrantable waste of energy and money to prepare every month, and every year, volumes of statistics which are put to little or no use. It is also a serious handicap both to the Railway Board and to individual administrations that they should lack the means of applying statistical control to the direction and management of the railway undertakings.

We recommend, therefore, that a Statistical Officer should be reinstated in the Board's office. His duties should be to measure the effect of new policies or experiments; to co-ordinate the statistical work of the railways and generally to afford guidance in statistical matters to the railway administrations. It is essential that he should possess the requisite experience, and he should have a status that would enable him to make the fullest use of his special qualifications. We should like to see him stand in his relation to the Agents more as a consultant than as a critic.

It is also important to strengthen, on the interpretation side, the statistical organisation of the railways which do not possess a Statistical Officer. There is no justification, we think, for the appointment on those railways of full-time officers for interpretation only. The duties of interpretation, however, should be specifically included in the responsibilities of one of the Deputy Agents and he should be provided with such subordinate staff as may be necessary to bring to his notice any statistical results which, *prima-facie*, call for investigation, and generally to discharge his responsibilities in this matter.

100. *Workshop Costs and Statistics.*—We have examined the system of costs and statistics prepared in connection with workshops and the repair and maintenance of rolling stock, and have been forced to the conclusion that these statistics are excessive both in number and in volume. On the other hand, their practical value is limited and they do not appear to have been found useful for supervising costs or securing economy of management. They also vary materially in character and composition between one workshop and another.

It is recommended that these statistics should be thoroughly overhauled with a view to securing a reduction in the number of returns, a more immediate utility for purposes of supervision, and uniformity between one workshop and another. The following points will need special attention:—

- (a) Method of allocation of costs.
- (b) Determination of the items to be included in variable and non-variable costs. These should be definitely scheduled.
- (c) *Locomotive Workshop Repairs.*—A statement is compiled monthly. It is understood, however, that the only purpose for which this statement can be used is to assess the amount of the budget figure for the ensuing year. It is suggested that a six-monthly or annual return would serve the same purpose.

We attach particular importance to the question of uniformity, since it is only in this way that comparisons can be made between the costs of particular operations at different workshops; such comparisons are of the utmost value in securing a full measure of efficiency.

We understand that the Railway Board has in fact placed an officer on special duty to draw up a code for the uniform allocation of costs. This valuable investigation should be pressed forward and a uniform code should be applied to all railways as soon as practicable.

Extract from the Report of the Indian Railway Enquiry Committee
1947

(KUNZRU COMMITTEE)

8. *Statistics*

* * * *

232. The Wedgwood Committee, in 1937, devoted considerable attention to the questions of statistics, and recommended that—

- “(i) the existing system of statistics should be reviewed with the object of increasing their usefulness and reducing the cost of compilation;
- (ii) the periodical conferences of Statistical Officers, which were discontinued since 1931, on the ground of economy should be resumed;
- (iii) a Statistical Officer should be reinstated in the Railway Board's office, and that the statistical organisation of some railways, from the point of view of interpretation, should be strengthened.”

While we are aware that action on recommendation (iii) above was taken some time ago, the conference of statistical officers referred to in (ii) above has only begun recently. So far as we are aware, action on recommendation (i) above has not yet been taken.

The existing statistical set up dates from 1924. Many of the important railways then appointed their own statistical officers for the purpose of compiling and interpreting statistics. Unfortunately, with the advent of the economy campaign in 1931, these posts were abolished except on four railways, which continued Statistical Officers as part of their organisation. On the other railways, in the words of the Wedgwood Committee, “the effect of the retrenchment is obvious since it has led to an enforced neglect of statistics on the side of interpretation. It has been admitted to us that with the abolition of statistical officers on railways, there are now very few officers who are thoroughly conversant with the statistics”. They went to the extent of stating that “it is unwarrantable waste of energy and money to prepare every month, and every year, volumes of statistics, which are put to little or no use.” (Paragraph 99 of the Wedgwood Committee Report). In the Board's Office, the compilation work was transferred to the Controller of Railway Accounts with a nucleus staff retained in the Board's office, as part time charge of the Deputy Director, Traffic. We consider that these retrenchments in 1931, were the result of a very short-sighted policy.

On receipt of the Wedgwood Committee Report, the Railway Board considered the necessity of a reorganisation of the statistical section

and as a preliminary step they retransferred the work from the Controller of Railway Accounts to the Board. The posts of Statistical Officers were also revived on some of the railways, on which they had been abolished and at present such officers exist on all railways except the E.P. and G.I.P. Railways. We recommend that each railway should have a separate Statistical Officer, whose main function should be, firstly, to ensure that the compilation is made correctly and promptly and second to correlate, interpret and review the statistics from time to time. These duties have been elaborated in the following paragraphs.

233. *Statistical Organisation.*—We are glad to find that the S.I. Railway compiles and publishes all fundamental statistical units and operating statistics for each month by the 10th of the following month. Statistics of coal and oil consumption and locomotive user are also similarly compiled and published soon afterwards. These statistics are then interpreted and reviewed, both by gauges and by districts, by the Statistical Officer. Regular discussions then take place firstly at the headquarters, and secondly on the districts, where the Statistical Officer brings to the notice of the officers concerned the salient points relating to improvement or deterioration in operation and changes in trends of traffic. The reasons are discussed in detail and where necessary, remedial measures decided upon.

On the other hand, it is stated that on the G.I.P. Railway, the Statistical Compilation Branch, which is in charge of an Assistant Accounts Officer, deals with the compilation of statistics only. The Statistical Co-ordination Officer (part-time) is entrusted with the duty of interpreting the statistics. The Deputy Transportation Superintendents, Power, Goods and Coaching, interpret and use the statistics in the normal course of their duties; the Traction Superintendent similarly interprets and uses statistics relating to the operation of electric locomotives.

We consider that the organisation in force on the S.I. Railway for the prompt compilation of statistics should be emulated by the other railways. We are aware of the different sizes of the railways and realise that what is possible on a small railway might not be so on a large straggling railway; but we do not believe that the time taken for the compilation of these domestic statistics should, on such railways, be very much longer than on the S.I. Railway. On the question of interpretation also we would favour the system followed by the S.I. Railway, under which the Statistical Officer compiles, interprets and reviews the statistics and brings to the notice of the departmental officers the salient points emerging from these statistics. Further examination of these statistics and reviews should naturally form the responsibility of the departmental and executive officers.

We attach very great importance to this and recommend not only that there should be monthly statistical meetings, but that the remarks and comments of departmental and executive officers should invariably be discussed at the next monthly meeting. This would ensure continuity of action. The above recommendations should not be misunderstood to mean that the departmental and executive officers, particularly the Operating Officers, should only investigate the performance and efficiency of operation on receipt of the domestic statistics or reviews from the Statistical Officer.

These monthly statistics are not enough for the railways; the day-to-day statistics, that are usually compiled in the Traffic Control Offices on the railways, are in many ways far more important than the periodical or monthly statistics. The latter are certainly useful, but for the needs of the executive officer it is the statistics that he can get almost immediately afterwards which can be of greater value. Statistics relating to the punctuality of passenger trains, the speed and load of goods trains, the turn-round of wagons and wagon user, the loading and receipt of traffic, the performance in yards, engine utilisation, fuel consumption, etc., must continually be before the executive officers, so that any deterioration can be promptly attended to and defects remedied. We are aware that all railways keep these day-to-day statistics, but sometimes their importance is not realised and their maintenance merely regarded as a daily routine. We have, however, seen some officers, who have shown great keenness in the use of the statistics, and we are glad to note that with their constant analysis they have been able to produce improved results.

In our discussions with the Railway Board, it has been stressed that at present there is no adequate machinery for an examination of the statistics of performance in conjunction with those of expenditure. We attach importance to this correlation and consider that the statistical organisation in the Railway Board's office should be geared up to enable this to be done. We understand that the Statistics Branch in the Board's office, which was under the control of the Director of Traffic, was transferred to the Director of Accounts in December 1946, with a view to finding out a suitable method of doing this. The Transport Minister referred to this in his Budget Speech in February, 1947, but unfortunately no fruitful action seems to have been taken so far. (We have dealt with this matter in paragraph 169, Chapter IX). Nor does any serious progress appear to have been made in connection with accurate compilation and interpretation of the railway statistics; the position in respect of the arrears in the compilation of statistics in the Board's office since then is no better than it was.

234. *Revision of Statistics.* The need for a reorientation of statistics recognised all round. We are convinced that a systematic review will show certain statistics can be discontinued and that there are other statistics for which a simpler and cheaper method of compilation can be found. The review will also show the need for additional statistical information, particularly to measure efficiency in regard to certain matters *e.g.*, the working of terminals, the cost of handling at transshipment points, the cost of carrying coal. Some railways now attempt to calculate dependent costs, but the results are not reliable; a more accurate method should be devised. On the Commercial side, some of the statistics, such as the zonal statistics for important commodities, the flow of traffic over restricted routes and between points susceptible to competition, should afford guidance in regard to a sound commercial policy and practice. We also think that staff statistics by detailed categories should be compiled. We, therefore, recommend that the present statistics should be reviewed in accordance with the present day requirements. This review, should be continuous and directed towards keeping the statistics in conformity with the current needs.

235. *Qualifications of Statistical Officers.* It is essential that the Statistical Officer in charge of the Statistical Branch in the Board's office should not only be thoroughly trained in statistical methods but should generally be conversant with the working of the railways too, particularly on the Operating and Commercial sides. His duties should, in the words of the Wedgwood Committee, be "to measure the effect of new policies or experiments; to co-ordinate the statistical work on the railways and generally to afford guidance in statistical matters to the railway administrations. It is essential that he should possess the requisite experience, and he should have a status that would enable him to make the fullest use of his special qualifications. We should like to see him stand in his relation to the Agents more as a consultant than as a critic." The final test of the efficient working of the railways is no doubt financial, but to increase the earnings, the operating efficiency and the constant search of new sources of revenue are needed. The correction of indices of operating efficiency requires an 'operating sense' and this, we consider, is extremely essential for an officer in charge of statistics in the Board's office. He must also have a knowledge of railway working, particularly on the Commercial side.

236. *Railway Board Statistics.*—We now consider the statistics that are compiled in the Railway Board's office. They are:—

- (i) Yearly Board's reports—Volumes I and II.
- (ii) Quarterly-Claim Statistics.
- (iii) Monthly comparative abstracts of
 - (a) Operating and Commercial Statistics,
 - (b) Marshalling Yard Statistics,

- (c) Locomotive, Carriage and Wagon Workshop repair statistics and cost of repairs and maintenance statistics,
- (d) Commodity-tonnage carried and earnings statistics.
- (iv) Periodical (10-day) statements and summary etc. of—
 - (a) Approximate earnings,
 - (b) Wagon loading and tonnage lifted,
 - (c) Wagon position in the pool received from I.R.C.A.

It has often been said that little use can be made of the yearly statistics, as they are very old and yearly comparisons are of little practical advantage. We do not entirely agree with these remarks. On the contrary, we consider that the annual figures provide a comprehensive survey of railway working year by year and are useful. As some of these statistics are of interest to the public, we suggest that a popular edition containing the more important statistics should be compiled and made available to the public at a suitable price. Such editions will disseminate accurate information among the public.

Quarterly and monthly abstracts and statistics are available months after the period to which they relate, and are, therefore, of little practical value. These statistics are available to the railways themselves much earlier, and it should, therefore, be possible for the Railway Board to collect and publish them without the delay that occurs now. The advantage of these compilations in the Board's office lies in their making inter-railway comparisons possible. These comparisons are advantageous, provided that the statistics are not "ancient" by the time they are published, and that they are regularly reviewed in the Railway Board's office.

237. *Domestic Statistics.*—We have already commented on the organisation that should exist on the railways for the prompt preparation of accurate domestic statistics. We can only add that no uniformity in this regard need be aimed at. At the same time, we believe that there are a number of items that are common to all the railways, and we consider that the railways should exchange information between themselves, with a view to effecting improvement in their own methods of compilation and presentation of statistics. We are glad to note that the periodical conferences of Statistical Officers, which were discontinued in 1931, have recently been restarted, and the first conference took place in August this year. We consider that these meetings are useful and should be continued.

238. *Training of Statistical Officers.*—We have already stressed the importance of a proper interpretation and review of statistics, not merely by the Statistical Officers but also by the departmental and

executive officers, We consider it essential that all officers, particularly of the Transportation (Traffic) and (Power), and Commercial Departments should have a course of training in the use of Statistics. This training should form part of the curriculum for the qualifying examination for the promotion of officers to the senior scale.

239. *Statistical Manual*.—We have recommended a number of measures that should be taken to ensure that statistics are compiled correctly and promptly, but in order to facilitate this and to enable the officers, who have to use these statistics, to understand their significance easily, we recommend the preparation of a Statistical Manual, that would not only be a Manual of Instructions, but should set forth the meaning of the various units and the methods of employing them intelligently. A manual of this kind was prepared by the N. W. Railway and we understand that it has since been prepared by one or two other railways.

APPENDIX II

*List of the dates of publication of Vols. I and II of the Reports by the
Railway Board on Indian Railways*

Date of Publication

Year	Volume I	Volume II
1924-25	17-12-1925	24-11-1925
1925-26	29-12-1926	25-10-1926
1926-27	24-1-1928	27-10-1927
1927-28	26-1-1929	16-11-1928
1928-29	31-11-1930	3-12-1929
1929-30	17-12-1930	9-1-1931
1930-31	29-1-1932	29-1-1932
1931-32	7-2-1933	11-1-1933
1932-33	8-2-1934	5-1-1934
1933-34	28-12-1934	21-1-1935
1934-35	7-1-1936	12-2-1936
1935-36	16-1-1937	2-2-1937
1936-37	31-12-1937	22-1-1938
1937-38	26-1-1939	7-2-1939
1938-39	1-2-1940	23-1-1940
1939-40	11-2-1941	21-1-1941
1940-41	14-2-1942	3-2-1942
1941-42	8-2-1943	29-1-1943
1942-43	9-2-1944	29-1-1944
1943-44	11-2-1945	5-2-1945
1944-45	14-2-1946	10-2-1946
1945-46	14-2-1947	16-2-1947
1946-47	5-3-1948	13-2-1948
1947-48	21-1-1949	24-6-1949
1948-49	19-12-1949	17-12-1949
1949-50	24-1-1951	24-1-1951
1950-51	20-1-1952	12-1-1952
1951-52	5-2-1953	21-1-1953
1952-53	21-1-1954	5-2-1954
1953-54	10-2-1955	24-1-1955
1954-55	15-2-1956	7-2-1956

APPENDIX III

Forms and contents of Domestic Statistics of the individual Railways and detailed suggestions for their improvement.

The method of compilation and the system of publication of Domestic Statistics by the individual Railways are described below. Detailed suggestions for their improvement where necessary, are also offered.

CENTRAL RAILWAY

Central Railway publishes Domestic Statistics every month in one volume showing therein (a) absolute figures of engine hours and train miles separately for passengers, goods, shunting and siding, departmental etc., (b) net ton miles, (c) average load of a goods train, (d) fuel consumption—passenger and goods, (e) fuel cost, (f) engine usage statistics, (g) hot boxes, (h) repairs to rolling stock, (i) punctuality statistics, (j) speeds, (k) shunting and light running, (l) wagon turn-round, (m) efficiency indices, (n) average starting wagon load and average train load per goods train and per passenger train.

It furnishes monthly figures for 24 months as well as the overall average figures for 2 years. It shows the average figures for the first half of the year also. So, monthly, bi-annual and annual figures are available in this book division-wise. The publication is quite helpful in view of the fact that the overall annual figures are available along with the monthly figures for a period of two years. But the main short coming is the non-availability of statistics based on audited commercial documents and statistics relating to finance and accounts, e.g. earnings and expenditure. Further, it is not known how division-wise mobility and efficiency statistics viz. wagon miles per wagon day, net ton miles per engine hour, are compiled.

Generally, the present system of compilation and publication may continue with the monthly commercial and financial statistics shown either in the same book or forming a separate volume if it is necessary to avoid delay in publication. The size of the book may be changed and brought in uniformity with other Railways.

EASTERN RAILWAY

The Domestic Statistics issued by the Eastern Railway show the monthly comparative figures but not the annual average figures. In

this respect, they may follow the system in vogue on the Central Railway. The Eastern Railway publishes only one volume which shows the main separating and a few mechanical features only. They should show more information in connection with the mechanical side such as workshop statistics and a few financial aspects also such as earnings, expenditure etc., by introducing a second volume, if necessary. The items shown on pages, 3, 4 and 5 are quite comprehensive and agree with those shown by the Central Railway. It is suggested that the comparative annual figures for a period of two years may also be shown along with the respective monthly figures.

NORTHERN RAILWAY

Northern Railway publishes the Domestic Statistics in 4 volumes. Most probably this is for expediting publication of the statistics which may be compiled earlier. Part I deals with transport and traffic, division and gauge-wise. Parts II, III and IV deal with power, commercial and mechanical features respectively. Though they publish a number of statistics, they are not showing the annual averages. In this respect they should follow the system in vogue on Central Railway. Certain derived statistics such as net ton miles per engine hour, wagon miles per wagon day, wagon turn-round etc., are shown division-wise. It is not known how division-wise figures are compiled for these features.

SOUTHERN RAILWAY

Southern Railway publishes a number of statistical pamphlets of varying sizes for the same month. It is very difficult to collect any information without spending unusually long time to search them out. Apart from printing a few volumes a lot of information is cyclostyled. It is not known how this information is used on that Railway. It is suggested that all information should be consolidated in different volumes dealing respectively with the operating, mechanical, commercial, features etc., and these volumes should be made available in printed books. Moreover, the statistics contained in Railway Board's statement I are printed for different districts in loose sheets of paper. It becomes difficult to connect these papers with the printed volumes. This Railway is also not showing annual averages for comparison. In this respect the system followed in Central Railway may be introduced here. The statistics of different features, however, may be shown in separate volumes as is the present practice, to expedite publication. Further, it is to be considered whether all the statistics published by this Railway are actually of any use to the officers of the departments concerned. If not, a lot of them may be scrapped and the rest should be consolidated properly in form of books.

WESTERN RAILWAY

The Western Railway also publishes a lot of statistics in a number of volumes. Apart from the monthly issues of Domestic Statistics, annual reports have also been received from this Railway. These annual reports probably refer to the General Manager's reports published every year. These reports are compiled on the same lines as those of the Railway Board's report Vol. II, furnishing overall statistics for the entire Railway system. Though the annual reports are published every year separately it is recommended that the annual figures be shown along with the monthly figures in the Domestic Statistics as done by the Central Railway.

Monthly statistics are published separately for Broad Gauge, Meter Gauge and Narrow Gauge. These issues are of different sizes. The books should be of uniform size and the volumes should be separated department-wise properly. The operating statistics are shown in Part I as well as in a separate book for which no part is mentioned. It is not known why the same figures are shown in two books. It may be investigated whether the same figures are repeated in different volumes and whether a number of them are of any use to the officers concerned.

NORTH-EASTERN RAILWAY

No Domestic statistics is published by the North-Eastern Railway. They should also compile figures for circulation.

SOUTH-EASTERN RAILWAY

Though the South-Eastern Railway was formed with effect from August, 1955, not a single copy of the Domestic Statistics has, it appears, been received in the office of the Railway Board till the time of writing this report. This newly formed zone is the successor of the old Bengal Nagpur Railway which was regularly publishing the monthly statistics. The publication should therefore be re-introduced without any delay.

APPENDIX IV

Table showing dates when Domestic Statistics published on different Railways are received in the Board's Office.

Railway	April 1955	May 1955	June 1955	July 1955	August 1955	September 1955	October 1955	November 1955
Central	Date of receipt Time-lag (No. of days) 28-5-55 28 27-6-56 27 28-7-55 28 30-8-55 30 28-9-55 28 1-11-55 32 2-12-55 32 2-1-56 33							
Eastern	Date of receipt Time-lag (No. of days) 28-6-55 59 27-8-55 78 8-9-55 70 14-10-55 75 23-11-55 84 8-12-55 69 2-1-56 63							
I	Date of receipt Time-lag (No. of days) 29-7-55 90 12-9-55 104 12-10-55 104 5-11-55 97 24-11-55 85 9-1-56 101							
II	Date of receipt Time-lag (No. of days) 9-8-55 70 12-9-55 74 12-10-55 73 8-11-55 69 9-12-55 70 11-1-56 72							
Northern								
III	Date of receipt Time-lag (No. of days) 24-11-55 208							
IV	Date of receipt Time-lag (No. of days) 10-12-55 132 26-12-55 117 23-12-55 84							

North Eastern No printed Volume of Domestic Statistics has been received from the Railway.

	Date of receipt Time-lag (No. of days)	19-7-55	19-7-55	22-8-55	12-9-55	17-10-55	28-11-55	13-12-55	9-1-56
Southern		80	49	53	43	47	59	43	40

South Eastern Date of receipt
Time-lag (No. of
days) Formed in August 1955. Statistics not being received yet.

I	Date of receipt Time-lag (No. of days)	6-6-55	12-7-55	8-8-55	9-9-55	11-10-55	8-11-55	8-12-55	4-1-56
		37	42	39	40	41	39	38	35
Western									
II	Date of receipt Time-lag (No. of days)	22-7-55	26-8-55	..	12-10-55	5-1-56	19-12-55	16-1-56	..
		83	87	..	73	127	80	77	..

APPENDIX V

CHAPTER XII Economy in Consumption and prevention of losses Recommendation

Action so far taken to implement the Recommendations

- (i) More attention should be given to provide proper stacking facilities and stacking ground and to the adequate stacking of all supplies as a check on consumption and pilferage.

- (i) The suggestion made by the Committee for the provision of expanded metal covers for open coal wagons to protect coal in transit was examined and found to be impracticable.

The Committee's recommendations regarding fenced enclosures for stacking areas in sheds has been accepted by the Board and the Railways have been intimated to take necessary action on a programmed basis.

- (ii) Immediate steps should be taken to set up machinery for giving effect to various economy measures discussed in this Chapter. These measures can be broadly divided into :—

- (ii) The various suggestions made by the Committee for exercising check on consumption have been examined and the Railways have been instructed that

- (a) Control over consumption, and

- (a) Special emphasis should be placed on elimination of wastage of steam through leaks in order to achieve economy in fuel; and

- (b) Power and Fuel Research

- (b) Measures should be taken to improve supervision on operation and maintenance in Power Houses.

The Control measures should be the function of the Fuel Control Organisation, and power and fuel research should be the concern of the Railway Testing and Research Centre, working in collaboration with the Fuel Research Institution.

As regards the Committee's suggestion for fixation of consumption units of coke in Mechanical Workshops and of coal for shunting and trial locomotives, the views of the Railways regarding the practicability and accuracy of these suggestions have been called for.

Questions relating to Fuel Research have also been finalised and forwarded to the Railway Testing and Research Centre, Alambagh, Lucknow.

**CHAPTER XIII Fuel Accounts
and Statistics
Recommendations**

**Action so far taken to implement the
Recommendations**

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| <p>(i) Examine the report of the Chartered Accountants in the light of our remarks with a view to evolving a simple and effective system of Fuel Accounts for adoption on all the Indian Railways, and</p> | <p>(i) The more important recommendations of the Chartered Accountants were:—</p> <p>(a) Centralisation of Fuel Accounts in the Headquarters of the Accounts Department.</p> <p>(b) Standardisation of the bill forms.</p> <p>(c) Introducing a scheme of identification of each loco coal wagon from the base station to its destination.</p> |
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The position in regard to these is as follows :—

- (a) Instructions have been issued to Railways for centralising the Fuel Accounts at the Headquarters of F.A. & C. A. O. and detailed rules of accounting have been laid down for adoption on a uniform basis on all Railways.
- (b) Standard Coal bill form has been drawn and circulated to the Railways for eliciting their comments before its final adoption.
- (c) As the scheme of identification cards to accompany each coal wagon was not considered by Railways as practicable, a modified scheme of tracing the wagons from time to time through wagon disposal statements prepared by the forwarding stations has been introduced. Detailed instructions were issued to the Railways as per Board's letter No. 53AC/Insp/10 dated 20-10-1953 and the progress of implementation by the Railways of these instructions is that the revised procedure has been introduced on the Northern, North-Eastern and Central Railways and is still to be introduced on the Southern and Western Railways. As regards Eastern Railway, the accounts have been centralised for the *Ex.-B.N.* and *Ex-F.I.*

- (ii) Enlarge the scope of Railway Fuel Statistics so that the effects of various direct and indirect factors affecting coal consumption are adequately brought out by the Statistical figures.

Railways but not for the Eastern Railway, as a whole, which the Railway Administration did not propose to centralise for the time being for various reasons, and the Board have decided not to press this for the present.

- (ii) The recommendations on rationalisation of the Fuel Statistics mainly refer to :—

- (a) Ensuring uniformity in the matter of inclusion of coal burnt on 'Lighting up fires' in the consumption figures.
- (b) Introduction of separate statistics of coal consumption during various operations in sheds and rating the same on the basis of total engine miles produced by Locomotives in sheds.
- (c) Rationalisation of service groups to admit of proper control of fuel consumption on each service unit having uniformity in the operating conditions *i.e.* Mail and Express, Suburban Express, other passenger, total passenger and mixed trains, Express or through goods or other goods trains.
- (d) Maintenance of statistical "Figure of merit" whereby it should be possible to judge the quality of coal received and assigned to different services.
- (e) Enlarging the scope of domestic fuel consumption statistics to bring out the effects of various direct and indirect factors affecting coal consumption.
- (f) Exhibition of coal accounts position in the given proforma in the Board's annual report.

The action taken on these recommendations is as under :—

- (a) All Railways are now following the correct procedure uniformly.

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- (b) The proposal has been examined but reasonably accurate data cannot be supplied with the organisation available. All Railways are, however, being instructed to pay careful attention to economy in the use of coal for shed services.
 - (c) Detailed instructions have been issued to the Railways in the matter.
 - (d) The suggested 'figure of merit' for overall fuel consumption is considered of doubtful utility, particularly in view of the difficulty to work out service-wise breakdown thereof. Nevertheless the Railways are being asked to use it as far as possible.
 - (e) Some of the Railways are already employing certain units of controlling coal consumption and others have taken note of the recommendations.
 - (f) The question of incorporating the data in the annual report has been agreed to in principle.
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APPENDIX VI

Statement showing the summary of conclusions/recommendations of the Estimates Committee relating to the Ministry of Railways—Railway Statistics.

Serial No.	Reference to para No. in the report	Summary of conclusions/recommendations
1	2	3
1	4	The Committee are of the opinion that considerable time and energy is spent on the Indian Railways in the compilation of Statistics. The expenditure incurred for the Statistical Organisation can be justified if the statistics are compiled promptly and it is ensured that they reflect actual performances. The Committee recommend that the statistics should be intelligently interpreted and comparative studies should be made of the performances of the different units performing the same kind of service. The results of certain important activities of the Railways at various levels should be made available to the public to enable them to offer useful and constructive criticisms.
2	10	The Acworth Committee made certain recommendations in 1921 for the reform of the statistical organisation and procedure in the Railways. The Kunzru Committee (1947) also made various recommendations for the improvement of the Statistical Branch. The Committee feel that though the Board has taken action more or less on the lines recommended by the Kunzru Committee, the position in respect of the recommendations regarding delay in compilation of statistics and the use to which they are put remains the same and the implementation of suggestions of the previous Committees is still outstanding.
3	13	The Committee consider that there is considerable delay in the compilation and publication of Statistics by the Board, the most important of these statistics being the Annual Report on the administration of the Railways, Volume II. Such delays render the Statistics of little use. Proper action should be taken to publish statistics well in time. Errors of compilation should also be eliminated. The periodical publication known as History of the Indian Railways should be improved by including information about major projects.

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| 4 | 17 | The Committee are of the opinion that the form and contents of Domestic Statistics vary considerably from Railway to Railway. There should be uniformity as far as possible. The Committee recommend that, generally, the form of compilation on the Central Railway may be adopted in other Railways. Commercial and financial statistics should be published in separate volumes, if necessary. Statistics of costs per unit of service under various accounts heads for smaller units such as District, Region etc. should also be compiled and shown in Domestic Statistics. Now-a-days, there are considerable delays in the publications which should be avoided. |
| 5 | 21 | The Committee feel that the statistics as they are compiled now, are inadequate as the following items are not included in the reports : (i) the flow of traffic of commodities, (ii) the cost of handling at transshipment points, (iii) the working of terminals, (iv) important staff statistics such as absentee man-hours, man hours worked in various workshops, sheds etc., (v) quantity as well as value of stores of various categories including scrap in the various store depots, the rate of issue etc., (vi) cost incurred in various workshops, the cost of equipment installed etc. The Committee desire that these matters should be examined in greater detail. |
| 6 | 22,23 | The Committee are of the opinion that statistics regarding workshop performances etc. are not maintained in the Board's Office. The records of the ex-State Railways are also not maintained satisfactorily. The Committee recommend that these important records should be kept in well organised libraries. |
| 7 | 25 | The Committee are of the opinion that there is need of a well-organised Central Statistical Bureau to obtain all the compilations from the various Railways and to keep them in record for ready references. There should be research section in the Bureau to undertake studies of special problems such as the relation between transport and industrial development, evaluation of the progress of the Railway Plan etc. It should study the variations of performances by the application of modern statistical techniques and undertake cost-finding analyses etc. There should be small research and investigation cells in the zonal Railways also. The Committee desire that these cells should also undertake comparative studies of the statistics of performance etc. |

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| 8 | 28 | The Committee consider that the position regarding interpretation and use of statistics has not improved since the publication of the Report of the Wedgwood and the Kunzru Committees. The Committee do not find that overall and integrated studies of the various aspects of the working of Railways are being regularly and systematically prepared and utilised periodically, though, whenever any special problems arise, such studies are being made. Inter-Railway comparisons of statistics relating to coal consumption etc. which show wide variation from Railway to Railway are not made. As conditions vary from Railway to Railway, the Committee recommend that there should be a qualified and trained statistician to determine the norms of performances under the varying conditions which would make the statistics of different Railways comparable. |
| 9 | 30 to 33 | Comparative studies have actually been carried out by the Committee on the Statistics of the various aspects of performance of the Railways. One of their conclusions is that the present unit of comparison of goods train performances <i>viz.</i> net ton miles per engine hour without taking into account the increase in tractive effort per engine does not provide a correct picture. Further, the Committee consider that, whenever possible, the money value of variations in performances should be worked out. A Manual of Instructions for annual, monthly and periodical statistics should also be prepared. |
| 10 | 35 | Considerable amount of cost analysis is carried on by the Canadian and the American Railways and much use thereof is made in the operation and management of Railways. The Committee desire that the Statistical Bureau, the setting up of which has already been recommended should also undertake such studies. |
| 11 | 48, 49 | The Committee observe that more attention is being paid to compilation than interpretation of statistics. In some of the Railways, the same officer is in charge of compilation as well as interpretation. The Committee feel that the officer charged with the work of interpretation should not be burdened also with that of compilation. This function should be assigned to the economic research cell which has already been proposed to be organised on the Railways under the Finance and Account Departments. The Committee hope that in choosing the officer |
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		for interpretation of Statistics in the economic research cells on the Railways and in the Railway Board, due attention is given to the recommendations of the Wedgwood Committee.
12	52	The Committee desire that the Railways should work out a detailed plan for training of the staff.
13	53	The Economic Adviser to the Ministry of Railways has studied how the statistics are used in the Canadian and the American Railways. The Committee suggest that similar studies of compilation and use of statistics on other foreign Railways, especially the Japanese, should also be undertaken by senior officials.
14	57	Coal consumption on the Indian Railways has been studied with reference to the Report of the Fuel Economy Enquiry Committee submitted in March 1953. A saving of 20% in coal consumption would be possible if suitable measures are taken to limit the effect of various controlling factors. The Committee are of the opinion that the Railway Ministry should undertake a rigorous examination of all the measures recommended in the Report. Certain changes should be introduced in the compilation of fuel statistics and the scope of statistics should be enlarged to bring out the effect of various direct and indirect factors affecting coal consumption.
15	71	The Committee consider that the results of the efficiency Bureau's investigations in connection with speed, transshipment at Break-of-gauge points etc. are to be put to full use in the operation of the Railways. It appears to the Committee that steps have not yet been taken to compile the statistics suggested by the Bureau. The Committee consider that this should be done without any further delay.
16	73	Staff statistics does not show the number of staff according to the nature of duties performed. The Committee recommend that this should be examined with a view to effecting improvements.
17	74	The Committee feel that the effect of heavier locomotives and wagons of greater capacity should be taken into account in the statistics for comparison of performance.

1	2	3
18	75	The Committee feel that the unit of performance adopted in a number of comparative statistics is not satisfactory. This needs examination.
19	76	The Committee recommend that statistics of distribution of new locomotives over the different zones as well as the amount of average stock on line on the various zones should also be compiled and shown in Railway Board's Reports.
20	79,80	The Committee have indicated the organisational and procedural changes necessary in the compilation and use of statistics. The details of this should be worked out by an officer, who should be appointed without delay to work out a detailed procedure for the reorganisation and also a programme for its implementation.

In conclusion, the Committee observe that at present, the time and energy spent by the Railways in compiling their statistics is largely wasted. This should be checked by increasing efficiency in the compilation and also the use of the statistics by proper interpretation.