CHAPTER XI

CONCLUSIONS & SUGGESTIONS
The Railways have shown outstanding achievements in respect of reform, expansion, reconstruction and re-organization. The programme of expansion in order to attain self-sufficiency in store supply, locomotives, coaches and wagon requirements, the revision of freight rate structure, establishment of Railway Rates Tribunal, provision of better amenities for passengers, better conditions of work and wages for workers, re-grouping of railways, adoption of the Financial Conventions of 1949, 1954 and 1965, settling the liability of the railways to General Revenues in the form of a fixed dividend of 6 per cent are some of the important achievements of railways since 1947.

During the past few years they have become largely independent of import for their needs of locomotives, wagons and components. Their contribution to economic growth has been invaluable and they have been a powerful instrument of social change. To say that Indian Railways are the nation's lifeline may be a cliche but it is a cliche which will bear repetition. It is not difficult to visualise how the nation's economy would wither away without these vital arteries of transport.

There are various aspects of the railways which need further investigation and improvement. On close observation it has been noticed that the enthusiasm and spirit displayed in the years immediately following independence are not being fully maintained.
But the personality of the men,¹ who guided the destinies of railways, had played an important part. They brought tact, experience and reformist zeal to bear upon railway problems.

At the dawn of independence, India inherited from the British a sick railway system, seriously impaired by the economic depression of the thirties and subsequently mauled by intensive usage during World War II. The country's partition had fragmented the already depleted railway assets. It was against this background that India had launched upon a plan to streamline that apparatus and to develop indigenous capital equipment and expertise.

The railways, like any other big organisation, of course, have their problems which though vigorously tackled, yet need further suggestions. The main questions to be tackled are - how to achieve operational efficiency so as to obtain better cost-output ratio; how to streamline administration and control at different levels and with proper co-ordination so as to achieve financial and operational efficiency on the one hand and introduce humanisation in industry for better performance on the other; and lastly, how to minimise problems - social and economic - with the object of checking leakages and pilferages of revenue and avoidance of wastes of all kinds.

¹ Mention may be made of Dr. John Mathai, Sri Gopalaswami Ayangar, Sri Lal Bahadur Shastri.
How to achieve Greater Operational Efficiency?

(i) The Economic Size of Zones:

The zones which came into existence after independence somehow, did not give satisfactory results. There are some railway experts who think that the regrouping done so far was a mere re-organisation on paper, and to a large extent genuine integration remains still a long way off. It was further realised that the question of re-arrangement of the existing railway units into smaller units could not be avoided and had to be faced at some stage or other. For better operational efficiency the problem of re-arrangement of the zonal units should be assessed and examined by a high-powered technical committee on whose expert advice the Railway Ministry should be prepared to act.2

The division of India into 17 States has brought in its wake yet another important problem. All the States are striving for self-sufficiency and development on equal basis. But the problem is that some of the States are much advanced, while some others are still backward economically and socially; moreover, rail transport facilities vary from one State to the other. In these days of advancing economy, these backward States need extensive transport facilities, hence they must have the facility to look to only one

2. According to Dr. Sanyal if any further reshaping is called for, the Government should, however, keep an open mind for the future and for maximum administrative and operational efficiency should not hesitate to take decisions.
railway and not to different railways. Some States have strategic importance and are to be considered on a priority basis. Separate railway zones will have to be set up in such States, even if they are uneconomic units. Transport facilities must be fully developed in such States, from the economic, political and social points of view.

What should be the optimum size of zones looking to the economic working and operational efficiency of the line is a crucial question. There are railways which traverse along different states and there are gauges which similarly cut along these States. Under these conditions it needs be examined - can we have state-wise zones or gauge-wise zones in the country for achieving our objective?

In the case of State-wise division of zones one great advantage is that where one zonal railway has to cater to two or three states, separate divisions should be formed to cater to different States in such a way that one division caters to only one State and not regions of different States. If the arrangement is such, a particular State will have to look to only one railway for its needs and the people and the Government of the State will take

3. For instance, the State of Jammu & Kashmir was rather neglected by the Railway Ministry; being a State of strategic importance, it should have been provided with suitable transport facilities. It was as late as 1966 that the first rail link was established when a broad gauge line was constructed between Madhopore in Punjab and Kathua in Jammu. Another 75 kilometre broad gauge rail link between Kathua and Jammu is expected to be completed by March 1978. Such minor constructions will not solve the problem, more effort is required in this direction.
keen interest and give greater co-operation in its development. Transport development and co-ordination committees will have to be set up in each state representing agriculture, industry, railway concerned, motor and water transport for periodical discussions to explore the needs and possibilities of railway extension in different parts of the State. These committees will have to be keep direct contact with the Railway Board in order to get timely and proper implementation of their schemes.

However, this suggestion is fraught with dangers. There is a growing tendency in the country at balkanisation. During the last two decades the number of states has nearly doubled. The dissiparous tendencies are still working somewhere on language basis and at other places on regional basis. The narrow outlook resulting in stateism is also harmful from national integration as well as strategic points of view.

The second alternative is that the division or zones be organised on the basis of gauges. The advantage in this case will be minimisation of transhipment time, better operational efficiency through maximum utilisation of engines, wagons and track capacity and consequently economic working. But as the gauge situation at present is, it is not possible to have gauge-wise re-grouping. Firstly, the hilly terrain would prohibit broadening of gauges in certain areas. Secondly, in river-fed areas such experiment would not only entail much time but require greater expenditure. The
railways are already alive to this problem. They have converted one gauge into another looking to the exigencies of the case and operational efficiency of the railways. The Railway Board can, however, be advised that if a particular gauge offers the potentiality of being converted into a separate railway zone its possibilities should be worked out and economies availed of by an experiment.

The Railway Board will have to keep this subtle question - of dividing railways gauge-wise or state-wise - in planning their requirements for engines, coaches, wagons, etc. Since huge capital is required to be sinking in railway construction, the problem of traction requires immediate attention of railway experts. Thus it would undoubtedly be an ideal thing if India, like many other countries of the world, adopt a single uniform gauge. This would require in the first instance the adoption of a standard gauge for the country and then changing all other gauges to this one standard gauge adopted for the country. From the point of view of carrying capacity, speed and general operational efficiency, the broad gauge is the best. But it would depend upon the physical features of the country as a whole to permit the adoption of this gauge. The problem should be examined from engineering, operational, financial and other technical aspects. Conversion through least dislocation should be the ultimate consideration. As we are planning for railway construction on a large scale, we should not ignore what Lord Dalhousie said in 1849, that 'whatever may be the gauge it should be uniform throughout the country'.
(ii) Economy in Fuel and better use of Coal/Diesel/and Electricity:

The Requirements and Utilisation Committee constituted by the Coal Council of India has estimated the fuel requirements of the country to be of the order of 380 million tons of coal by 1975. The Committee was of opinion that if rail transport solely became dependent on coal the railway requirements will be about 80 million tons of coal per annum by 1975. The resources and production possibilities reveal that it will be extremely difficult to meet these requirements fully or even partially. As the tempo of traffic is rising rapidly, it is essential to ensure that a critical situation does not develop. It is evident that running of railways solely on steam will necessitate consumption of coal in huge quantities. Thus for greater efficiency and for economical utilisation of fuel, mainly coal, has compelled the enterprise to switch over from steam traction to either diesel or electric.

The Case for Electric or Diesel:

The case for electric or diesel locomotives becomes all the more stronger because of their easy availability, continuous operation, ability to haul heavier traffic and faster loading, better thermal efficiency and economy in fuel consumption. With increasing traffic densities, however, the economic position of steam traction becomes more and more unfavourable.

The economies of dieselisation and electrification can be studied here. The former claims several advantages over steam
traction and has been very successful in America. In India diesel engines can be advantageously utilised for shunting operations in large marshalling yards, in rail cars, hilly or other sections with high gradients, in arid regions, in areas away from collieries, in areas with high population density and in sections where steam traction has reached saturation point.

Oil prospects in India are brightening up. There are indications that oil and natural gases are available in different parts of the country. If such are the prospects, diesel engines could be introduced in large numbers on a wider field for the promotion of operational efficiency. The Diesel Locomotive Works, Varanasi, has broken new records in the production of diesel locomotives. The total production at the end of March 1970 was 300 broad gauge locomotives,\(^4\) three broad gauge hydraulic shunters of 250 H.P. capacity and 21 broad gauge diesel electric shunters of 1,000 H.P. capacity.\(^5\) The works have maintained a good progress in increasing indigenous content in a diesel locomotive. At present it stands at 83 per cent. If the progress continues at this rate, it would be possible to solve the fuel problem to a great extent.

Again, with regard to electrification versus steam engine, electrification is capable of giving better acceleration of traffic, higher average speed, increase in average load of trains, cutting

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5. Ibid., dated December 29, 1969.
out halts for watering and servicing, comparative independence from human element, improvement in passenger services, considerable increase in line capacity without costly additions to permanent way and consequent increase in traffic earnings, better punctuality, clean operation, elimination of smoke resulting in improved public health. Despite huge capital investment, electric operation is much cheaper as power is produced at a low cost, either from river water, poor quality coal or from a dam.

Though there are certain disadvantages as well as overhead track from which electric traction is received, is fed by distant sub-stations connected to more distant power generating stations through long transmission lines. Moreover, there is a high capital demand for the establishment of electric traction. But the reduction in operational expenses and the efficiency achieved are so high that these expenditures are balanced within a few years. Various hydro-electric projects which are fast developing in our country could certainly make it easier to electrify most of the strained sections of the railways in the coming years.

Mr. B.C. Ganguli, Chairman of the Railway Board, while giving the statistics observed that electric traction was cheaper

6. A Seminar on "Decade of Electrification on Indian Railways" was held in January 1970, to discuss the scope of electrification in the country. Mr. B.C. Ganguli while inaugurating the Seminar said that a cost of Rs 150 crores had been incurred on electrification over 3,000 kilometre route. He further stated that nearly 24 per cent of the broad gauge traffic was running on electric traction with a fleet of 400 locos. It was expected that Howrah - Bombay and Howrah - Delhi routes would soon be electrified. - News Items - The Pioneer dated January 9, 1970.
The question that looms large, after examining the economies of the three types of traction, is, should India select any one out of the three or accept all for the future economic growth of the country? In a developing economy like ours, it would be to advantage to develop as well as conserve all the possible resources of the country. From this point of view all the three types of traction should be used. This arrangement would solve the fuel problem in a better way as the burden would be distributed. For metre gauge and branch lines and for shorter distances as well as for sidings, steam traction should be preferred. In other words, dependence on coal should be lessened, keeping in view the resources available in the country. For long distance traffic which requires high speed for passenger and goods both, diesel traction should be adopted. For heavy traffic and for congested areas like Bombay, Calcutta, Delhi, electric traction should be preferred. Further, for de luxe trains, air-conditioned and other luxury coaches - our preference should be for electricity. Electric traction should

7. The Hundred and Second Report of Estimates Committee of Fourth Lok Sabha, 1969-70 has also urged the Railway Minister to prepare a Master Plan for the electrification of Indian Railways. The Chairman of the Committee Mr. P. Venkata Subbaiah, regretted that the Railway Ministry had so far not prepared any prospective plan for electrification of lines beyond the Fourth Plan Schemes. Though the electrification work took considerable time to complete and entailed concurrent co-ordination with the Central and State authorities, yet the Plan had to be finalised. The Committee said that there was no reason that the firm target dates could not be laid down 'on a realistic basis and strictly adhered to after taking into account the inherent difficulties like supply of power, procurement of material and equipment'.
also be used on main trunk routes and between the metropolitan cities of Delhi, Bombay, Calcutta and Madras. The Rajdhani Express, introduced in 1969, is the country's fastest train and will be a fore-runner of India's future, modernized rail service. Loco trains for factory and other works should be on electric traction. To handle this colossal traffic all the three tractions should be adopted on different routes.

(iii) Use of Modern Appliances:

For still greater operational efficiency the consideration of modern appliances becomes obvious. For their introduction in the railway department, a high level committee should be set up to study all the devices used in foreign countries and to see whether these could be used efficiently and effectively in India. Delegations to foreign countries should also be arranged to study the practical utility of these devices. On the basis of their reports and suggestions the Government should start taking advantage of the various automatic and electronic devices such as the Centralised Traffic Control (C.T.C.). It is one of the most modern developments in railway signal engineering whereby points and signals at a number of stations on a section can be operated from a suitably located control office by a single operator. In this system the railway line is track circuited throughout and the positions of the various sections of track, the signal and points are indicated on a diagram in front of the operator. Points and signals are
operated by simple thumb switches so located that the operator can easily set a route and lower signals expeditiously.

A fully interlocked double line section like the Nagpur - Bombay route of Central Railway can be of immense benefit to our expanding economy. The congested trunk routes of Delhi, Bombay, Calcutta and Madras should be progressively double-lined, interlocked and electrified in view of the convergence on to them of very heavy traffic from all parts of the country. Central Traffic Control should also be installed with advantage in very congested double-line sections like the Bombay suburban area, to enable trains to run on both directions over each of the lines. An experiment in this direction has already been made on the 180 kilometres of Gorakhpur - Chupra line - one of the two sections on which it is in operation. This system can handle approximately 40 trains per day in both directions.

Further, the radio and other electronic appliances in various other aspects of railway working can be made use of on the basis of the recommendations of the committee appointed for this purpose. For contact between moving trains, trains and terminals, between trains and stations and between the members of the train crew, radio communication should be made use of. Wireless telephonic communications between a central point and the different focal points in the yard should enable all movements to be controlled and regulated by a central agency. A yard-master or a
yard clerk, with the assistance of a radio transmitter would be able to keep in constant touch with engine crew throughout the yard. The possibility of introducing radio programmes on various routes can also be subject for study for the committee. All such measures would make journeys more pleasant and comfortable. Electronic computers and teleprinters should be made use of, in order to receive advance information of trains due to arrive and to plan ahead for their marshalling and onward despatch. Various type of data could also be calculated on electronic calculating machines. Television sets, on the basis of the recommendations could also be of much help as regards wagon registration operations which are being carried out by an employee in front of whom the trains would pass.

To make an experiment, passengers travelling by the Brindavan Express running between Madras and Bangalore will shortly be able to establish telephonic ground contact with people in other places. The passenger, connected telephonically to the outside world through the railways micro-wave communication system, could speak to other places from a moving train.8

Can we try the other modern appliances of other countries, is the question to be answered. With additional knowledge in India and abroad, India can conveniently take advantage of all the modern devices. The Committee of Experts can study the possibility of introducing them in the country. The study is to include the

adoption of measures with regard to comfort and noiseless travel facilities and other coaching furnishing processes which are prevalent in western countries. In U.S.A., the coaches which are built for inter-city travel are built of stainless steel and a wise use of plastics is made. The cost too is much less. Walls, ceilings, rest rooms and passenger seats are all made of reinforced fibre glass plastics, the use of which has greatly reduced maintenance costs.9

The said Committee should also study the suitability for their adoption in our air-conditioned and other important trains.

Further, vacuum cleaning on Russia model can also be a subject for study. The Committee should review the possibility of this new device in our trains and at stations particularly for III class passengers.

In Russia there is the system of supplying free bedding and tea on payment. The Railway Administration on the basis of the recommendations of the Committee can give a trial to this practice on some routes.

The feasibility of introducing the Japanese system of automatic seat reservation through an automatic machine should be studied by the said expert body as this method will reduce the waiting time in queues and would also stop all mal-practices regarding seat reservations.

(B) How to Streamline the Administrative set-up for Effective Control?

The record of performance of the central administrative machinery is not very satisfactory. It has only kept the service going. The railways were rather unable to introduce all types of facilities in passenger and goods services. There has been some progress no doubt, but a lot still remains to be achieved.

(1) The Divisional Pattern and the Work-load:

In India the railways comprise of the nine individual Railway Administrations i.e. the nine zones which have spread a network of railway lines in the country. The pattern of organization on all the railways is the Divisional System. Due to the rising tempo in the economic activity of the country, the work-load of the railways has a tendency to increase. It is, therefore, suggested that a systematic study of work-loads be undertaken and steps designed towards re-arrangement of the existing railway units into smaller units of manageable size. There is no harm if decentralisation is introduced wherever it is possible. In the Divisionalisation of the zones sufficient care should be taken to see that the Divisional Unit chosen is not too unwieldy for efficient management by the Divisional Superintendents.

(ii) To acquire confidence of the users, it has to be more vigilant and efficient. For retaining the confidence the machinery at the lowest level has to be renovated. The field workers are the best judge of administrative difficulties as they are in the know of
of the entire situation; improvements should be based on their suggestions. More effective measures will have to be adopted for keeping down expenditure on the one hand and maximising revenue and plugging leakages on the other. The operation of the law of increasing returns will have to be followed as far as possible.

(iii) For Better and Cheaper Service:

In spite of the phenomenal growth of passenger and goods traffic, the total addition to Indian Railway route kilometrage was only 59,563 kilometres during the period 1950-51 and 1968-69. This reveals the fact that there are still vast regions in the country which are untapped and hence the enormous potentialities for a more well-knit railway system. This accounts for the general backwardness of the country in the economic spheres with our comprehensive economic plans, the economic activity is being accelerated and is expected to be more profound and more rapid than it had been in previous years. Every effort is to be directed towards overtaking the arrears of track renewal and increasing the line capacity. The large percentage of overaged and unserviceable stock on the track should be reduced. In an effort to intensify production the quality should not be neglected. For efficient running of workshop there should be co-ordination of the various functions as production, planning and control. There should be an expansion of indigenous capacity and procurement from foreign market should be discouraged.
The railways through better administration have to intensify their efforts to attract more traffic. They are expected to speed up their goods and passenger trains and increase the number of wagons and coaches attached to each train. This would result in quicker turn round of wagons giving better and cheaper service to the users. It is an admitted axiom that railway transport capacity should run ahead of planned economic development. They are to be in such a position as to meet the challenge of rising demand and to be in line with the economic development of the country. This can only be possible when there is proper modernisation as regards diesel traction, electrification, automatic signalling, Central Traffic Control, use of computers etc. Some of these aspects have already been discussed earlier and in Chapter X. All such efforts combined together will give better and cheaper service to the users.

(iv) Co-ordination with other Modes of Transport - Transport Co-ordination Board and its Functioning:

Co-ordination between the various modes of transport in the country is the next objective. The sad state of affairs is that while every country has tried to secure the co-ordination in various modes of transport there seems to have been very little effort on the part of Indian Government to achieve this co-ordination through some statutory agency. The problem is attracting the attention of planners as the dangers of unregulated transport system are becoming more vivid today than they had ever been before. A proper method of effective
Co-ordination has yet to be evolved. Co-ordinated development and operation of all the modes of transport under the guidance of a Transport Co-ordination Board should be pursued through the mutual agreement and co-operation of the Railway Board and controlling organisations of other modes of transport. As this Board at the centre would be entrusted with the task of co-ordination, all transport interest will have proper representation. The Board will have to set up Zonal Transport Development and Co-ordination Committees at the Zonal Railway Headquarters and the Divisional Headquarters of the Railways. The Chairman of this Board will have to be the member of the Railway Board so as to get better co-ordination and control among the various agencies of transport. Such a body is to be formed in close affinity to the Railway Ministry so as to get all the privileges for framing out an overall plan for co-ordination.

For better results and mutual agreement the members of this body should be experts on rail, road, water and air transport. There should be periodical meetings to explore the needs and possibilities of expansion, extension, modernisation and co-ordination. The agreement should be on the basis that water transport should be assigned with the carriage of bulky and cheap goods as far as possible and railways and roadways should be made complementary on the basis of feeder roads which are a connecting link between the railway stations and remote rural areas. Air transport would naturally be confined to the carriage of light and high class traffic.
The controlling organisation of rail, road and water transport should hold frequent consultations at a common table when the Chairman of the Railway Board could preside or act as the ex-officio member. The consultations should be held with a view to arrive at common agreement with regard to joint time-tables, common booking offices and other common facilities for the greater benefit of the public. It is essential that this Transport Co-ordination Board should have due authority without which the scheme cannot succeed.

So long as co-ordination is not brought about railways can start moving more goods in containers on an extensive scale. A high power committee should be instituted to study the feasibility of the introduction of "piggy backing", on U.S.A. model on our railways. Wherever this service has been introduced it is giving satisfactory results. Thus on the basis of this committee it should be introduced on State-wise basis specially in busy towns in order to co-ordinate the services of rail and road transport.

10. "Piggy backing" is a ride on some one's shoulders. In the cost conscious world of transportation, "piggy backing" is a ride on a flat car, on open wagon. It is a term used to describe the transport of truck, trailers, or containers (metal oblong boxes) on special rail-road flat cars. Movement from truck or flat car - or the other way around - is sometimes accomplished by means of ramps, sometimes by over-head cranes. The advantage for "piggy backing" is its flexibility. Consigners and receivers located away-from rail heads can enjoy the advantages of rail transportation of goods and still have the convenience of 'door-to-door' delivery.
(v) Humanisation of the Industry:

The most neglected human factor, the pivot round which the wheel must turn should be given proper attention. The staff on the Indian Railways has been on an increase; between 1950-51 and 1968-69 it has grown from 9,14,000 to 13,54,000. As against these increases in number, the cost of staff employed has increased from Rs 1,388 millions in 1950-51 to Rs 3,929 millions in 1968-69. There is also a considerable scope for improvement in existing procedures of recruitment and training. The promotional policy should be so framed as to afford an opportunity to every railwayman to rise to the highest past provided he has the requisite ability and qualifications. Harmonious relations between staff and management would help in toning up efficiency. A sense of duty is to be developed amongst the workers so as to enable them to share the responsibility of carrying out the work with sincerity and honesty. For better results their methods of recruitment, opportunities for proper training and the methods of distributing the work - will have to be improved.

The Institute of Rail Transport which has been set up in Delhi should be authorised to conduct annual examinations for membership so that the probationary officers and others promoted from senior subordinate cadre could pass the membership examination of the Institute to increase their professional knowledge and be prepared.

for higher jobs. Those possessing research qualifications would be able to reap better advantages. The adoption of all such measures would raise the standard of the entire organisation. Along with it the hours and conditions of work, emoluments, welfare measures should be given due consideration in the overall improvement of the standard.

Management councils, consisting of representatives of labour, technicians and administration, should be encouraged to discuss matters of common interest and make suggestions for an overall development in the railways. An atmosphere of goodwill should be encouraged and grievances should be redressed by negotiations and if these fail, arbitration should be made available at all levels, an atmosphere of healthy trade unionism should be encouraged. Indiscipline, absenteeism and strikes should be discouraged. Public cooperation and goodwill should also be incorporated for better suggestions on railway administration.

In an attempt to streamline the administrative machinery the focus of attention is to be on raising the productivity level. Productivity, to a great extent, depends on human factor, which is reflected in the working of trains—passenger and goods—speed, punctuality, meeting of the demands promptly. When the productivity is high there will be no question of any slackness or the supply falling short of demand. The performance of railways is normally judged from the points of view of the punctuality, the speed, the

12. The punctuality of all passenger trains has no doubt increased from 79.79 in 1950-51 to 83.41 in 1968-69 on broad gauge and from 71.43 in 1950-51 to 85.61 in 1968-69 in metre gauge - Indian Railways 1968-69, p.26. Yet much remains to be achieved in this direction on account of the daily increase in traffic.
comforts provided and fares charged. The deterioration in speed should be checked by providing adequate co-ordination between central offices or between the railways or by the removal of the low standard of rolling stock or lack of proper supervision. Transport bottlenecks and line congestions should be avoided. There should be more efficiency at the break-of-gauge points, marshalling yards, terminal goods station yards. The rise in general productivity of the railways will ultimately reflect on all these aspects of railway administration and performance.

(C) How to Achieve Financial Soundness?

This problem has to be tackled both from income as well as expenditure side including operating cost, economy, funds, accounts and audit reports. The railways are heading for a deficit for the fourth year in a row. They are facing a difficult situation. The reserves of the railways have been dwindling, the increase in working expenses had been very high. Measures for sound financing have to be adopted with careful planning. As the railway expenditure is almost out of proportion with the traffic handled there is considerable scope for economy, and steps would have to be adopted for the same.

(1) Income/Expenditure:

The earnings of railways are mostly from goods traffic which account for more than 60 per cent of total traffic receipts. With regard to passenger earnings it may be said that nearly 90 per
sent come from third class. It is a matter for investigation, whether the higher classes are subsidised to some extent by the third class. There should also be some investigation into the cost element of higher classes in relation to the earnings from them so that they may not be a burden on third class. The commercial departments of the railways should be entrusted with the task of increasing revenues in order to cover up the deficits if any. They should be in contact with the business community to cover up the losses. The first duty of the Indian Railways is to create and develop traffic, to secure and maintain friendly relations with the traders and trading bodies and to cultivate good public relations generally. Measures have to be adopted to remedy the defects on the basis of some expert advice. A Railway Research Service should be incorporated to collect, compare and circulate, in a monthly bulletin, information regarding up-to-date railway practice, so that enquiries could be conducted for increasing revenues.

The problem regarding expenditure is that it is getting out of proportion. The operating ratio has increased from 80.0% in 1950-51 to 82.7% in 1968-69. The working expenses during the last twenty years have increased by more than 75 per cent. There has been a steep increase in the ordinary working expenses in the budget of 1970-71, these are expected to exceed the budgetted amount by about Rs 17.7 crores. The fuel bill alone has gone up by Rs 4.77 crores following the increase in coal prices from October 1969. The
The problem is to device ways and means of bridging the Rs 329 crores gap in the Railways' Fourth Plan. The railway expenditure is expected to go up still higher in the coming years. Economy measures will have to be thrashed out in order to get a better adjustment in finances.

All new expenditure should be so regulated as to yield the maximum returns. Entirely depending upon economy campaign would not serve any useful purpose. There should be a high return on the capital invested. The operating ratio should never be allowed to increase. By checking financial irregularities, losses should be avoided.

It was noticed that after the integration of the Zonal Railways, the level of expenditure had generally risen to correspond to that of the less efficient integrated units. Hence steps should be taken to make a comparative examination of the cost of service in the integrated units in order to get better performance and the better performance of some of the units should be made the standard performance of the integrating railway as a whole. Need for such a financial optimum is, therefore, a necessity for judging standards of performance on various railways. All efforts should be directed towards the reduction of the expenditure on zonal integration.

Thus when this expenditure is under control, railways will begin to move towards the green, and, then only thing would be set right.
The Four Railway Funds should be properly utilised and controlled and a definite policy should be followed as regards Development Fund. The history of this fund has been somewhat disappointing i.e. from 194.4 millions of rupees in 1951, the closing balance has come down to 12.6 millions of rupees in 1968-69. The balance for the years 1969-70 and 1970-71 has been nil as the entire amounts were withdrawn from the fund. The position of the Railway pension Fund is no doubt somewhat better, showing a balance of Rs 932.7 millions in 1970-71 budget estimates. But the railways need more funds in order to meet the pension liabilities of the employees in a better way. The building up of strong funds is of paramount importance. Thus for an overall improvement the whole financial policy should be recast.

(ii) Rate - Freight Policy:

For better financial adjustment, railway finances are to be examined from two aspects - freight rates and passenger fares. As regards freight structure it may be pointed out that it needs orientation and a closer examination of classification of individual commodities. The manner in which the question of simplification of classification was handled shows procrastination and half-heartedness. It is one of the great drawbacks of railway administration that there is no machinery to examine the anomalies arising out

of freight structure. It is a serious lacuna and should be done away with. The freight policy as a whole should be guided primarily by the general economic considerations as well as the requirements of a developing economy; the policy should be reviewed at intervals and modified according to the changing circumstances. Economy study of freight rates in relation to its incidence on traffic should of and on be instituted so as not to frighten traffic and to see whether the freight rates fall in line with the economic development.

The railways should look to the safe, prompt and quick delivery of goods and according to the schedule; such measures should be adopted which may minimise the payment of compensations on account of damage and loss done to goods. Railway Rates Tribunal should be more independent in order to gain the confidence of the public. Its procedure should be made more simple and it should avoid undue delays in taking decisions.

The railways should take precautions as to avoid burdens falling too heavily on freight structure on account of expansion programmes as construction of new lines, increase in line capacity, provision of new rolling stock etc. This expenditure should be met from outside borrowings as far as possible, so that the burden is equitably distributed between the present and future generations. The freight policy should be so arranged as to bring about the dispersal of industries especially in less developed areas, so as to promote a balanced development in the country.
As regards the rationalisation of fares, these should be properly adjusted to the cost structure. Over and above, the tapering system of fares followed at present should conform to the needs of our developing economy. Advisory Committees should be established so as to study and review the rate structure in the light of the changing economy and to modify it from time to time. A liberal rates policy, imbued with national outlook should be adopted as traffic responds promptly to lower fares. The rate structure, like a living organism, should be evolved over a period of time and should respond to the changing needs of trade and industry.

(iii) Efficient Managerial Control:

There should be an efficient system of managerial control and the various statistics of performance should be analysed and compiled on a satisfactory basis. 'Productivity Tests' should be undertaken in order to control expenditure. This managerial control would help the railways in giving up their obsolete practice of covering up losses by immediately looking around for ways and means of increasing the rates and fares.

(iv) Accounting Procedure:

The railways have adopted a very complicated system of accounting procedure. The system has outlived its purpose for which it was designed during the British period for the payment of
guarantee or profits to the shareholders. The procedure needs simplification as on this system depends the efficient working of the railways.

(D) How to minimise Socio-economic Problems?

The main points to consider here are -

(1) The first phase of this problem relates to accidents which have become a common feature of the railways. The human element is mostly responsible for such occurrences. It will be ideal to expect human error to be eliminated altogether. That of course is impossible but it can certainly be reduced with better supervision and by promoting safety consciousness among the staff. A safety organisation is no doubt functioning but it has failed to make any noticeable impact so far. Further, there is a great scope for perfection where mechanical equipment is concerned and to some extent appropriate devices can make up for failure of human element or at any rate giving warning in the event of a human lapse to enable remedial action to be taken before a disaster actually occurs. Funds should be available for development and extension and for safety measures which are to be adopted.

The working of the psycho-technical cell, engaged in applying psychological methods to the problems of accidents should be intensified. The standardization of batteries of psycho-physical tests, to determine the presence or lack of requisite abilities
among the operational staff of the railways for doing their jobs safely and efficiently, should be soon evolved and standardized and should be utilized at the time of selection and promotion of operational staff so that services might be performed safely.

Main emphasis should be on educating the staff as well as giving condign punishment to those who indulge in unsafe practices. The four basic methods of accident prevention viz., Education, Effective Supervision, Engineering Aids and Enforcement should be adopted more vigorously and those who display special alertness and avert accidents should be rewarded amply by the railway administration.

It will not be out of place to mention that prevention of accident is not a one way affair. It is not only the railway administration which is responsible for accidents but the public too has a role to play through its attitude and behaviour. If rules and regulations are observed for safe travel, chances of accidents would be minimised. There should not be any feeling of distrust towards official enquiries. Instead there should be full confidence and trust in Railway Departments.

(ii) High Standard of Cleanliness on Platforms and in Compartments:

Cleanliness on railway platforms should receive special attention and intensive efforts should be made to maintain high standard of cleanliness. The sweepers and other persons deputed for this work should be strictly supervised and controlled as insanitary
conditions and overcrowding result in greater inconveniences to the travelling public. Hawking and vending inside the compartments should be made a penal offence as they add to the insanitary conditions for the travelling public.

(iii) The third point is concerned with the amenities provided to the public. The Railways continue to implement programmes for providing amenities at stations and improving conditions of travel. But the standard of amenities provided can not be accurately measured quantitatively. So far as the adequacy of the services is concerned Railways have been trying to increase the services to meet the growing demands of passenger traffic according to priority to freight transportation in the larger interests of a developing economy.

There is much that the Railways can do in the sphere of amenities available to the general public using rail transport. The condition of the rolling stock, especially of passenger coaches, is far from satisfactory. Their maintenance is in a poor condition and the difficulties of the lower class passengers particularly need to be removed at an early date. Moreover, train lighting which is being affected by the use of 24 volt, axle driven generators, batteries and other special equipment fitted on the underframe of the coaches, is not only costly but incapable of meeting the increased power demand necessitated by the introduction of better lighting, more fans and air-conditioning in trains. For economy and better
results, the Railway Administration should switch over to 110 Volt generation by simple driven generators for long distance fast trains and diesel generators for slow services. This will also economise the cost and would result in savings.

Besides, an important question is that of safety and security during travel. Whenever there is a great rush specially during melas, special trains should be run more effectively. Steps in co-ordination with the police authorities be taken to prevent roof travelling. Special arrangements should be made to keep the passengers and their luggage safe - Railway Policing is to be made more effective for this purpose especially during the night. Like the Railway Protection (Uttar Pradesh) Act 1968, every state should enact and enforce similar acts in order to give more powers to the Railway Protection Force so as to enhance their efficiency. The services of Railway Protection Force, Dog Squads should be utilized more often and more effectively in order to detect crime and catch criminals. Railway intelligence staff has to be more vigilant so as to avoid any loss done to railway property. A high-powered committee should be constituted to investigate and report on the problems connected with the security and policing arrangement on the railways. On the basis of a questionnaire it should be asserted from the passengers, if they are satisfied with the present policing arrangement on the railways and what measures could further be taken to ensure better security arrangements.
The railways are quite earnest in their efforts to provide increasing amenities to rail users and a sum of Rs 4 crores is being spent annually on this account. Their aim is to provide at every station by the end of 1970-71 basic amenities like waiting halls, benches, adequate lighting, drinking water supply, platform surfacing, proper sanitation etc. But, in spite of all these efforts, much still remains to be desired, specially with regard to the sanitary condition in compartments for the travelling public.

Another amenity which can be offered to the public is the departmental catering at the stations. The quality of food available to railway travelling public is not of high standard. For better service the Railway Catering and Passenger Amenities Committee should work more efficiently and should no more work on the principle of running departmental catering on a 'no-profit and no-loss' basis but should be modified so as to provide for a small profit ranging from three to four per cent which should be ploughed back into service.

Little courtesies which can be offered to the public are the facilities of return journey tickets and other booking facilities. The railways should be more liberal towards giving concessions specially to touring parties. Special arrangement should be made to the seating arrangement of female passengers. The suggestion given by the Over-crowding Enquiry Committee in 1956, as regards the reservation of seats for female passengers instead of separate compartments is not quite feasible. The practical difficulty would
arise while locating the reserved seats. Moreover, these seats would often be occupied by male passengers. It would be a hard task to get the seats vacated. Hence separate female compartments properly labelled should be provided. The number of such compartments should be increased on important routes such as Delhi - Bombay, Bombay - Howrah, Amritsar - Howrah, etc. These compartments should be properly spaced in order to avoid congestion and inconvenience. At important stations Lady Ticket Checkers should be deputed to see that these compartments are not occupied by male passengers as it has become a common practice with male passengers to occupy these compartments.

(iv) Minimisation of mal-practices:

All mal-practices regarding seat reservation should be stopped through strict supervision and checking. There should be the facility of reservation of sleeping berths on all the long route trains and the number of sleeping compartments should be increased on important and congested routes. More of 'Janata' trains should be introduced and sleeping accommodation provided on them. The facilities for reservation and advance booking should be increased to enable the travelling public to plan their journeys much before schedule. The system of ten days advance booking on various routes should be changed as it leads to inconvenience and waste of time.

15. The Northern Railway is making an experiment in this direction by introducing separate booking windows where booking will be done along with the purchase of tickets just before the commencement of the journey.
(v) Service at Railway Enquiry Offices:

The Railway Enquiry at the Stations should be more active and should not misguide the passengers by often giving wrong information. There should be passenger guides at the railway stations to help the public. They should be available at all the stations and at all times and should be prompt in their service. The announcement at the stations should be more regular and intensified so as to guide the passengers properly.

On the whole there should be a proper rationalisation of passenger amenities. These should be introduced on a priority basis and the order of priority should be determined by the Regional or Divisional Amenities Committee to be appointed for this purpose. The schemes of all the Railways should be integrated at the Railway Board level. The Railways should maintain the goodwill of their customers if they want to flourish as a commercial undertaking.

(vi) Checking of Leakages:

Another aspect of socio-economic problem is that of ticketless travelling. This is one of the corrupt practices quite rampant on Indian Railways. Mahatma Gandhi had once said, "If I were at the head of the Railway administration, I would advise the Railway Management to tell the public that unless they purchased tickets, trains would be stopped and they would resume journey only if the passengers willingly paid the fares due".
Ticketless travelling is mostly indulged into by the general public, particularly students in groups, railway employees with their friends and relations, as also by the police staff who too have friends and relations to oblige.

Various measures have been taken in this respect to eliminate this evil. There have been concerted surprise checks to detect ticketless travellers. Travelling Ticket Examiners have appeared in plain clothes in badly affected sections to deal with the habitual ticketless travellers. Co-operation of social service organisations have been sought and volunteers have been paid a daily allowance of Rs 5/- to cover out of pocket expenses, including expenditure on conveyance.

The Indian Railway Act of 1890 was amended in June 1969 and higher penalties were imposed for this crime. Since then the results have been quite encouraging. Statistical information collected up to September 1969 shows that the number of passengers thus detected has gone down by 66 per cent as compared to the corresponding period of previous year. There has been an increase of 7.75 per cent in the sale of tickets during the four months from June to September 1969 as compared to the same period in the previous year. During these four months railway earnings increased by Rs 7.76 crores or

16. The maximum fine that can be imposed has been increased from Rs 100/- to Rs 500/-. Stipulation has been made for a minimum fine of Rs 10/-. The minimum amounts of lower and higher excess charges have been increased from 15 paise to Rs 5/- and from 50 paise to Rs 10/- respectively.
9.33 per cent. Thus such leakages of revenue from ticketless travel has been appreciably plugged.\(^{17}\)

In spite of all such measures, the problem needs greater attention in order to stop the menace altogether. It can only be controlled when the Zonal Railways take steps to improve booking facilities for passengers. Besides, there should be timely opening of existing booking windows. Introduction of additional self-ticket printing machines and coin operated ticket machines should be introduced for better service.

This habit can only be eradicated by building social sanctions against wrong doers. Unless there is co-operation from the public and improvements effected by the divisional system, things cannot improve. Mere palliatives will not root out the evil. There should be a proper educational atmosphere and the checking should be honest and supported by public. There should be fencing of the road side stations and it should be efficacious. Yards and stations should be remodelled. The frequency of surprise checks on massive scale should be increased. The Railway Protection Force and the Railway Police Personnel deployed for this purpose should be more vigilant.

(vii) Over-crowding:

We have already discussed this problem in the previous

chapter and have examined certain suggestions there. Some more suggestions in this connection are added here.

In the first instance, a competent committee should be appointed to assess the extent of over-crowding. It should be composed of officials, non-officials and public spirited personnel.

Over-crowding can be avoided to a great extent by providing separate space for luggage in the compartments, moreover, there should be an arrangement for safe custody and immediate delivery of luggage at the destination. The trains should be properly spaced. They either pass too quickly or there is a big gap, but when there would be proper spacing, over-crowding would be avoided.

There should be a re-classification of rail travel, giving better opportunities to the travelling public specially to the third class passengers. There should be a census for this purpose with a view to ascertaining and relieving over-crowding.

(viii) Public Co-operation:

In any study of rail transport the problem of public cooperation can not be ignored at any stage. We are living in a dynamic and progressive world and there is no aspect of railway problems which does not need further improvement. But the examination of these problems should not be confined to casual report of an official placed on special duty. A system should be devised under which cooperation between railway authorities and the public should be possible. Evidence is abundant of the ills resulting from want of
intelligent appreciation and mutual co-operation between railway authorities and the travelling public. Many of the ills found today would have been remedied had the authorities taken a broader view of the entire machinery of railway officials; that their problems cannot be understood by laymen, being highly technical, is greatly responsible for the wide gulf which exists today between them and the general public. On the other hand, public opinion is not satisfied with the working of railways and they do not accord that support to them which, as public carriers, they are entitled to receive. The public are ignorant of the difficulties and the special problems which confront the railways for the simple reason that these have not been properly stated to them. A good deal, no doubt, has been done to surmount the special difficulties and to solve the problems, but progress would be accelerated if these are placed at the disposal of the country and the Legislature.

Thus at the close of this detailed study of the development of railways in India, one can only feel happy that inspite of many omissions and commissions by the authorities in the past, the railways have grown more during the last two decades than through the preceding century. Behind this exciting built up is the story of correct anticipation of our growing needs, the development of the indigenous know-how and the capacity to produce even sophisticated equipment in the country. The efforts made by the railways at indigenisation of equipment and development of a versatile industry
have helped save substantial amounts of foreign exchange. The stress on modernization of railways helped to accelerate the entire process and broadened the industrial base for specialized items which require complex manufacturing processes and a high degree of technical skill. A committee of experts is to be appointed to see how far these problems can be tackled and solved.

The people of India have been secured not only of a valuable property yielding a substantial revenue annually but also a machine that has united them into a nation. It is true that much remains to be done in the matter of improving the operational efficiency, yet the progress of the Indian Railways has re-inforced confidence among our people in general and railwaymen in particular, and that no risk is too big to be taken for further development. The Railways are well poised for a take-off.