

TRANSPORT News



**Safety :
Need for deeper analysis**

Quarterly Journal of the Centre for Transportation Research and Management

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*E*ditorial

The buzzword is with us again—Safety. The nation wakes up to unpleasant realities when rudely shaken, only to slumber again. September 9, 2003, India woke up to a disaster. Indian Railway's flagship service, the Rajdhani Express, went off sabotaged track, and a bridge, and took a toll exceeding 100 passengers. A shocked nation came to grips with reality—after all, it was the first casualty of any Rajdhani passenger since the inception of the service in 1969.

Two issues stand out.

One, Indian agencies never prepare for a disaster. One of the essential elements of any safety plan is post-disaster relief and rescue. Our procedures seem to be more in tune with restoration of services, rather than with rescue and relief of passengers. In fact, there were reportedly frayed tempers at site, when one of the cranes was diverted from picking up coaches to the restoration of the adjacent track. We seem to practice the ostrich head-in-the-sand approach, and never tell ourselves - A Disaster Can Occur, and we must remain prepared for it. The dreamy belief is that an accident will not occur, and as a result, when it does strike us, it exposes our state of un-preparedness.

And two, we need to revamp our transport safety network. A demand was made in this journal way back in 2000, asking for a National Transport Safety Commission, that would give a holistic view of the multi-modal society that we have become. A passenger walks, rides a taxi, a bus, a train, and a plane, in the course of a single journey. It is of no consequence to him that he is more safe in this or that mode : he would like uniform safety across all modes. With the view split between, rail, road, air, and water transports safety bodies, most of the time a rationalistic approach is being adopted. A simple test will do : just download the publicly available accident reports of the National Transport Safety Board of USA, and compare them with our own agencies. The difference in depth and focus will immediately demonstrate the advantage of an integrated view.

Since sabotage has emerged as a major issue now, the state administrations should leave the denial mode, and move forward to address the dangers.

This volume includes a safety analysis and action plan from a report on road vehicle safety by Ministry of Transport of Japan. It again serves to highlight that we need to address the agendas involved much more closely than we have been doing in the past. Safety is serious business—much more serious than just “fixing responsibility”. Witch hunts only return us to slumber. Instead, we need to analyse, generate scenarios, and apply lessons learnt to the future.

THE THIRD WORLD PLANNING EXPERIENCE

S. K. Ray

The writers on the economy of the developing countries have often found in Third World planning a fountainhead of study and research. At the same time, a consequence of their planning practices has also been an awareness on the part of the Government and the Central Planning commission to reckon with many vital economic forces at play in the economy. For instance, 'the formulation of successive Five-Year Plans has led to a steady evolution of economic thinking in India on questions relating to planning theory and techniques'.¹

The present study covers the Third World, except for Japan, Australia and New Zealand. It also does not cover the countries of East Europe, earlier known as a group as the Second World, as these have been going through complicated decadal vicissitudes of socio-political changes, some of these with an uncertain economic scenario, with which we could not keep a track for the present analysis, and which will require specific research.

STRAITJACKET ?

It has been claimed that there is a theoretical format to the plans of the developing countries based on economic theories and concepts and a number of economic models. Take the case of India for instance, starting from the Harrod-Domar model of the First Plan, the Mahalanobis model of the Second Plan, to the Leontief and terminal-year models of later plans. Besides, a large number of approach papers were prepared, before each of the Five-Year Plans were formulated, and many of these became the *blueprints* for the respective plans. Thus, the approach paper by P. C. Mahalanobis became the blueprint for the Second Plan, the approach Paper by Pitambar Pant for the Third Plan and the approach paper by D. P. Dhar for the Fifth Plan.

To what extent were such conceptual delineations a mode of fashion and to what extent a real pragmatic economic thesis based on an exhaustive discussion of all relevant *varia-*

An author and economist, Dr. S. K. Ray has written nine books on economics, published by Westview Press, USA and Prentice-Hall, India. These includes a trilogy – Economics of the Third World (1983), Economics of Development (1988) and The North-South Economics : The Growth Divide of the World (1993). His two latest books are Transport Planning for Developing Countries (1995) and Planning, Growth and the Economy (2002), both published by Prentice-Hall.

bles at play in the economy is open to doubt. For instance, even though the First Plan was largely prepared as a compilation of individual projects, it appears in retrospect that an effort was made to give it a theoretical respectability by attaching an annexe on the Harrod-Domar model probably as an afterthought and to establish a kind of correlation. Let us take the *period* plans of Bangladesh and Zambia as the two other examples. The same theoretical overtones have been kind of superimposed.

The principal shortcoming of Third World planning has been that premises have frequently been built, and conclusions derived therefrom, on inadequate factual and statistical intelligence, and more on the basis of trends, assumptions and 'intellectual forecasting'. In their planning experience, the role of the civil servant has been substantial. With a *general*, on-the-surface and sometimes non-professional understanding of economics, the bureaucrats have frequently endeavoured to reduce complicated economic phenomena to simple straitjacket propensities. Naturally many conclusions went awry. In order to explain variegated forces at play in the economy, mathematical, statistical and software models were developed on the basis of inadequate information and analysis. While as it is there is nothing wrong with such a model, it frequently becomes *assumptory* when the *inputs* are presumed or inadequate. ... Such models would often deflect the conclusions from their correct bearings.²

GROWTH PROFILE

India and a few other countries of the Third World have taken unmistakable steps on the way towards continued economic growth. But, then, many of the measures adopted have been ad hoc and sectoral. The process of economic growth itself, in view of a lack of *mitigating* circumstances, has given rise to such distortions as cost escalation and inflationary pressures.³ At the same time there have been widespread inequities in distribution, together with concentration of wealth and economic power. Nevertheless, the economy had furrowed for itself a growth momentum. The situation is highly manifest, for example, in some countries of South East Asia.

Taking into account the basic goals to be achieved by 2010 AD and the resource-base, alternative development scenarios were simulated for recent period plans, like India's Eighth Plan or the Zambian Sixth National Development Plan for the late 'nineties. From the alternative development scenarios, a profile of development has been chosen which would enable the economy to reach and maintain a high and steady growth path. Modernisation and the adoption of advance technology would require priority attention, so that an optimum use of resources could be brought about. This is okay, as far as it goes, as objectives to follow, but then, in view of assumptory planning and vulnerable implementation and monitoring, the intended growth path has often been rickety and tortuous. Besides, a crunch of resources and a sorry state of affairs about rehabilitation of assets have assumed serious proportions.

India has been progressing as also China, Taiwan, the Republic of Korea, Singapore and Hong Kong, but not the Third World as a whole. Even in those countries which are *doing well*, there are gaping sectoral and regional inadequacies and imbalances. Even then, however, there is no reason to believe that the perspective is only sombre. There are certain silver-lines. The aberrations would, nevertheless, require to be identified and checkmated. Not merely absolute growth but also real growth will have to be achieved, sometimes with the help of the developed nations and international institutions, but often on their own. There should, therefore, be no hesitation in assessing the perspective of at least a number of developing economies as pregnant with possibilities, once the deterrents and aberrations have been adequately taken care of. Amongst these countries will *inter alia* come India, China and Malaysia, Brazil, Turkey and Nigeria, South Africa and the oil-rich countries of the African Continent. The prospects, however, are not bright for a number of other countries like Chad, Ethiopia, Bangla-

desh or Afghanistan, as the process of development has not as yet really taken off.

While structural changes of the economy is a necessity, its introduction would have to be gradual to minimise deleterious effects in which controls over operational and investment decisions are removed, and its reorganised production processes and scales of operation achieve competitive efficiency. At the policy level, a movement towards greater liberalisation is necessary, so that there is a commitment to restructure the economy as rapidly as is practicable. The *New Economic Policy* on economic reforms adumbrated and enforced in recent years in India is a step in this direction. Similar steps have been taken in Mexico and Indonesia. Results achieved, however, have not been uniform or as expected.

GREY AREAS

It is accepted that the planning experience of the Third World has not been altogether free from blemishes. There are areas of failures and shortcomings, together with many successes and achievements. Different rates of absolute growth have been achieved, diluted however by demographic and inflationary pressures. In resource mobilisation, the dependence on deficit financing and foreign borrowing persists. This is abject in its depth for a number of countries like Bangladesh in Asia and Ethiopia in Africa. But many other developing countries in differing measures are largely reliant on offshore finance, and largely as aids and grants for most of their development projects. Their success in controlling inflationary and demographic pressures has simultaneously been woefully poor. Zambia, Tanzania and Zaire are three examples in Southern Africa.

Preoccupation only with the areas of success may be self-defeating sometimes. This can deflect from the inherent and persistent areas of failure and shortcomings.

It is much more necessary and important in an assessment of the present kind to identify and delineate the various shortcomings and inadequacies, some of these persistent and ingrained in the system. Such an *introspection* is integral to the monitoring of the planning process, and is vital to essential policy adjustments and formulation of remedial strategies. This also brings forth the fundamental lessons for future planning.

Such a scrutiny may, therefore, now be undertaken. As a matter of fact, planning in the Third World has suffered from a number of conceptual and managerial distortions in areas of theory and practice and a pillion-view to portray at one place what ails planning in the developing world should be in order.

DESKTOP PLANNING

To a large extent, planning in the Third World has usually and largely been a *departmental exercise*. This is true of most of the countries of the Third World including both Brazil and India. The five-year or other *period* plans have been to a large extent like a compilation of provincial or sectoral plans and their midterm evaluations like sectoral progress reports collated together. Planning in Pakistan or Bangladesh, Peru or Ecuador, Thailand or Malaysia, Zambia or Zaire, more or less follow the same pattern.

Many of these countries have taken the services of off shore consultants, with financial assistance from institutions like the World Bank, the International Development Association, the Asian Development Bank or the African Development Bank. What is strange is that even these teams of consultants mostly comprised bureaucrats and executives rather than economists and technocrats. And even with offshore guidance, plans with lesser priority were often taken up for execution while vital works-in-progress had stagnated.

Planning in the Third World appears to follow a markedly laid-back approach. There is much less 'working back from final objectives to the tasks which must be performed to achieve the same'. The phenomenon cannot be said to depict a visionary sequence of integrated developmental network plans. There is little evidence of the nation having dreamt a big dream, and trying to execute it, fibre by fibre, on a large scenario, with finesse, perspicacity and competence.

"Figures are indeed given – both for aggregates, like the national income or total investment, and also for the output of particular commodities – which may stretch forward over a period of twenty years or more, but many of these represent the broad carrying forward of general ideas about expansion, rather than the results of a coordinated view of the position in some (specified) future year, ... covering all aspects of the economy, and a calculation of what would be required in the intervening years to achieve that position."⁴

Reddaway said this about India. But his observations are equally applicable to most other Third World countries – Vietnam, Nigeria and Guatemala, Bangladesh, Tanzania and Zimbabwe, Chile, Zambia and Pakistan, amidst others.

This has largely been precipitated by the departmental nature of economic planning with which practical economists, competent specialists and brilliant technocrats have frequently had little to do even as regards the fundamental exercises. Planning in the Third World has remained more or less in the hands of the diehard civil servants, who had taken over the reins of the economy after independence. It has been felt that often they did not clearly appreciate the directions of the economy, had mixed up the economic priorities, and as a result the organisation, monitoring and implementation of the planning process had in many sectors foundered.

The situation is paradoxical. Over a period of a few decades, and with considerable privation, many developing countries like India have bred their own fleet of economists, specialists and technocrats with considerable pain, expense and enterprise, sometimes even with external assistance. It is strange that the Third World should have continued with the red tape and sometimes the lack of vision and perspicacity of the service bureaucracy. It has been said that from an entrenched position of strength, frequently hand in gloves with pressure groups, mainly political, the service bureaucracy continued to make the economists, specialists, scientists and technocrats play second fiddle, and, therefore, the planning process has over the years suffered frequently from a predictable lack of thrust and imagination. All may not agree to this view, at least not in entirety, and certainly not those who are the beneficiaries, but planning by and large has continued to remain largely a bureaucratic exercise in these countries – with inevitable deficiencies of *civil service planning*.

Plans formulated on a grand physical canvas could not be matched with adequate internal mobilisation of resources. ... 'Eyes were cast on distant horizons', and big objectives were set, but as far as the mobilisation of plan finance and technology and husbanding of labour and entrepreneurship were concerned, as also their realistic grain-by-grain implementation in the field, the logistics and pooling programmes for execution were not at all optimum.

SURPLUS-BALLASTING : SMALL-TIME

The resource-situation in a good number of Third World countries has been paradoxical. India, Morocco and Pakistan, Indonesia, Egypt and Argentina, amongst others, are typical and representative examples. There has been plenty of investible surplus, but this was largely

submerged in the parallel economy, and was generally shy and reluctant. A raging subterranean economy held innumerable wealth and black money in its fold and worked in open competition with the official economy.⁵ ... It is often lamented in the context of such a situation that the hoards of black money lying in the shade in the parallel economy would have perhaps seen the country through several successive five-year or other *period* plans, without involving the economy into enormous international debt-servicing and domestic deficit-financing.

It is unfortunate that the Third World, by and large, has not been able to organise adequate surplus-ballasting with a solid hardware-base of an escalating level of exports, much ahead of imports. Contrarily, the trend has been increasingly moving in the reverse direction, leading to an avalanche of deficit financing *cum* internal and external borrowing. To what extent the recent economic reforms, with a specific export-orientation in India or Mexico, with enforcement of IMF/World Bank *conditionalities*, will reverse the direction, may be watched with interest. In Mexico, however, there has been a period of relative boomerang, but it seems to be working out, as far as it goes, in India.

With further evolution of economic planning in the developing world, there has been some marginal increase in the rate of growth of the gross national product. But then a host of deterrents or incongruities have further eroded the already poor absolute economic growth in real terms. Because behind each such incongruity there is the direct or subterranean involvement of different pressure groups, be they theorists or academicians, operators of the money market, international aid-givers or the labyrinthine bureaucracy.

Planning not only provides a society a charter for growth, but also the crystal balls through which a society perceives its future. To political parties and their leaders, plans are devices ('instruments of delusion' a cynic may say) to persuade the public at the hustings.⁶

Along the planning process, there is a congregation of people wanting to make a fast buck, or gain personal advantages, and who want that economic planning be staged on a grand scale, and they become the beneficiaries of the fallout.

In the Third World situation, the dimension of projected investment for a country has frequently been colossal, with indigenous or exogenous finance, or both, even though the potential for mobilisation of such resources without exerting serious inflationary consequences or without an adverse exchange account never looked bright. This paradoxical approach has prompted a number of developing countries to take to economic planning with pomp and splendour, without in the first instance, or simultaneously, building up an adequate and matching indigenous infrastructure, or without serious redressal of what is called structural disequilibrium.

FURTHER INCONGRUITIES

Massive investments for development and governance may be alright when there is an investible surplus to support it overwhelmingly within the economy. This has, by and large, not been the case in the Third World.⁷ Contrarily, the countries of the Third World have been going around the world with the mendicant's bowl asking for more and more aid-packages, and have in the process achieved an economic development of sorts, but frequently at the cost of inflation and runs on the exchange counter. This phenomenon has been extremely manifest for the African economies, Zambia, Angola and Kenya, Mozambique, Zaire and Tanzania, *et al*.

Unfortunately during the planning era, the gains of even an absolute growth in GDP

was not spread out, even for those developing countries where GDP-growth had not slumped or become negative. There has been an increase in distributional inequity, and 'the rich has become richer and the poor poorer'. What else, this is evident even in the sprawling Indian economy, committed to cultivate the socialistic pattern of mixed economy. With a steady increase in population, manifest in the number and percentage of population below the poverty line, with very poor income per capita and standard of living, socio-economic inequity has also mounted year after year. There has also, simultaneously and resultantly, ensued wider and deeper concentration of wealth.

OTHER GROWTH ISSUES

The consequences have been deleterious to *real* economic growth. By the mid-'eighties, the entire Third World economy has largely been under a demographic and inflationary seize, except for a few countries like Myanmar or Sri Lanka which had not as yet witnessed a population explosion. While the population has more than trebled in just over thirty years in India, it looks as if the spiral of inflation has had a merry upward run. The situation is even worse in Bangladesh, Ethiopia, many countries of Latin America or sub-Saharan Africa between Gabon and South Africa.

Then again, while resources, including deficit finance commandeered by the Government, were not adequate for the plan size, not by itself need-based, this was always thinly spread over a large network of individual projects, big and small. Indian planning, for instance, by and large seems to have given way to the numbers game in the selection of the projects. Each plan included innumerable projects to satisfy various interests – sectoral, regional or even departmental. As a result, the average life-span of a project is taking a pitifully as also uneconomically longer period of gestation, so that with inflationary rises in prices and costs, nearly all projects are taking much longer time and much larger outlay. The situation in most other developing countries is different, if at all, only in *degrees*.

PUBLIC SECTOR : A PHOENIX ARISES ?

The public sector, as a direct vehicle of development, directly sponsored by the State, has expanded steadily. The public sector has been wielding more and more control and 'commanding more and more heights' over the expanding core or basic sectors.

When the public sector had first emerged, and thereafter prospered through the planning process, nationalisation had given a big hand to its expansion. Thus one by one, sectors like coal mining, oil and petroleum, banking and life insurance have largely come within the control of the public sector in India and a number of other developing countries. The process looks irreversible, and even though the tempo has lately slackened, it is likely to pick up momentum again with periodic spurts in nationalisation.

Privatisation has not really taken off, even though the subject is being incessantly discussed conceptually in India, Zambia, Indonesia, Argentina and some other developing countries. The degree of the sprawl of the public sector, however, has been different between the different countries of the Third World. For instance, in Taiwan, the Philippines and the Republic of Korea, many industries earmarked elsewhere for or concentrated in the public sector, are mostly in the private sector and are doing very well.

ECONOMIC GROWTH : IS IT SELF-SUSTAINED ?

Profitability, both directly and indirectly linked with productivity, is the most vital issue for a public sector unit. Unfortunately a number of public sector concerns are afflicted by a serious lack of productivity, and do not yield a surplus, and are a drag on the exchequer.

The red tape and the influence of Parkinson, the hegemony of the service bureaucracy, the militant trade unions, and finally the discharge of the economies of scale, are the principal factors eroding their viability. The oncost to the economy is proving enormous. Therefore, appropriate importance needs to be given to profitability. Equally important it is to have a duly rationalised balance between state programming and private entrepreneurship, not to altogether eschew the canons of competition and of productivity and profitability.

There is plenty of good sense behind the revival of the British economy mainly on the basis of profitability to the unit and productivity to the country – two canons of *Thatcherism*. As a matter of fact, a large number of public sector industries have gone back to the private sector, and there is an increasing pressure of public opinion that even the British Rail should be privatised. The British concept of a productivity balance, even though not seriously practiced in later years, should be emulated by the Third World, particularly for capital-intensive concerns. Other factors to be taken care of are that neither the authoritarianism of the State nor the militancy of trade unionism should assume menacing proportions, and the overall interests of balanced economic growth should not be subjugated to sectoral or partisan interests.

If the developing countries 'does not or won't stop the ... rot in the timbers, it will sink (the economy), and it will be poor consolation for ... political parties, management and unions to say, as the ship sinks, anyway the leak was at the other end of the boat'.⁸

Finally, distributing the net national product equitably to the multitude, on the other side of the poverty divide within the country, and optimising the contribution of the individual to economic growth, are matters relevant to equity in income distribution and optimisation in human engineering, effective strategies for which the State has to devise and enforce. Precious little has so far been achieved in these directions in the sprawling economies of the Third World.⁹

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The Strategic Plan of Safety Measures Related to Motor Vehicle Traffic

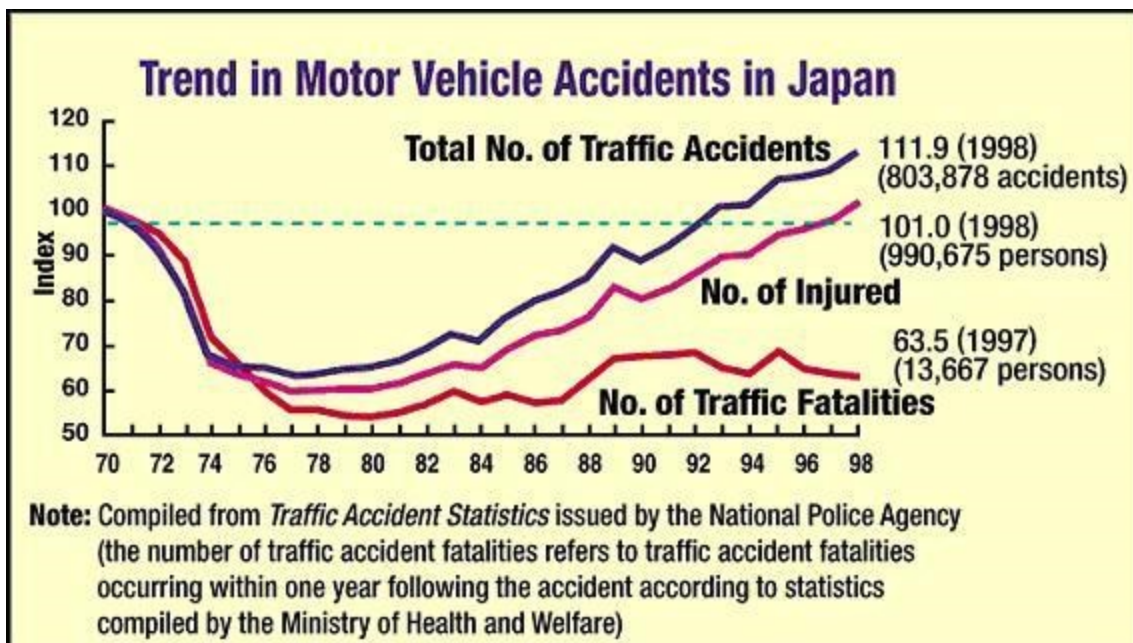
Basic Perspective on Addressing Motor Vehicle Traffic Safety Measures

Extremely serious current situation of traffic accidents

The number of traffic accidents and traffic fatalities and injuries involving motor vehicles has been rising steadily in recent years. An examination of the number of fatalities and injuries according to statistics compiled by the National Police Agency reveals an increase from approximately 760,000 fatalities/injuries in 1988 to approximately 1,000,000 fatalities/injuries in 1998. This represents an increase of about 30% over a ten-year period.

A breakdown of the number of fatalities shows a declining trend over the past several years as the result of a variety of measures. Nonetheless, statistics compiled by the Ministry of Health and Welfare of traffic accident fatalities occurring within one year following the accident indicate about 14,000 deaths per year.

Injuries, in contrast, seem to be increasing. About 990,000 persons suffered injuries in traffic accidents in 1998, topping the record worst year set in 1970, when about 980,000 persons were injured in traffic accidents. This year, the pace appears to be increasing. As of the end of April 1999, about 317,000 persons have suffered injuries, with the rate of injuries

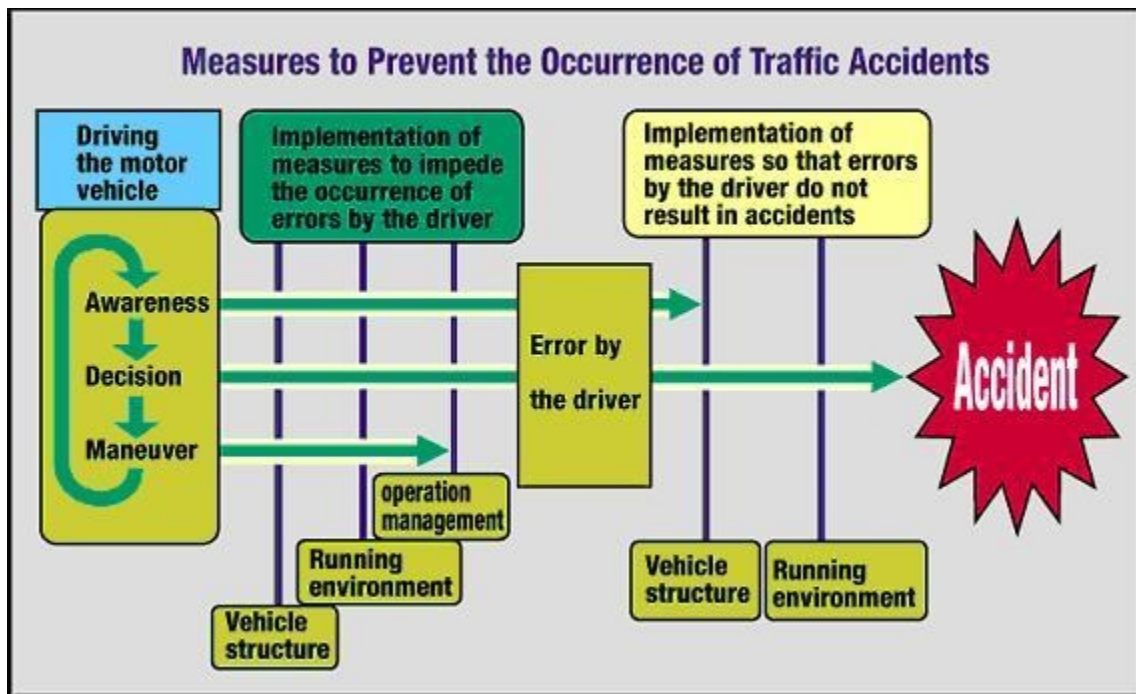


The study demonstrates the kind of specific inquiry needed to tackle transport issues. It will serve to highlight the quantum jump needed by Indian planners to examine situations, and propose solutions. As always, the analysis is simple, but the depth is admirable.

running about 7% over the level of 1998, which was the worst year ever. The increase in the number of injured persons is not stopping.

Why are so many traffic accidents occurring and what measures should be undertaken to counter this?

Most traffic accidents are attributable to human factors (errors by the driver). Nonetheless, in the background there is the possibility of the presence of problem points in areas such as vehicle structure, the running environment, or in operation management, all of which may lead to errors by the driver.

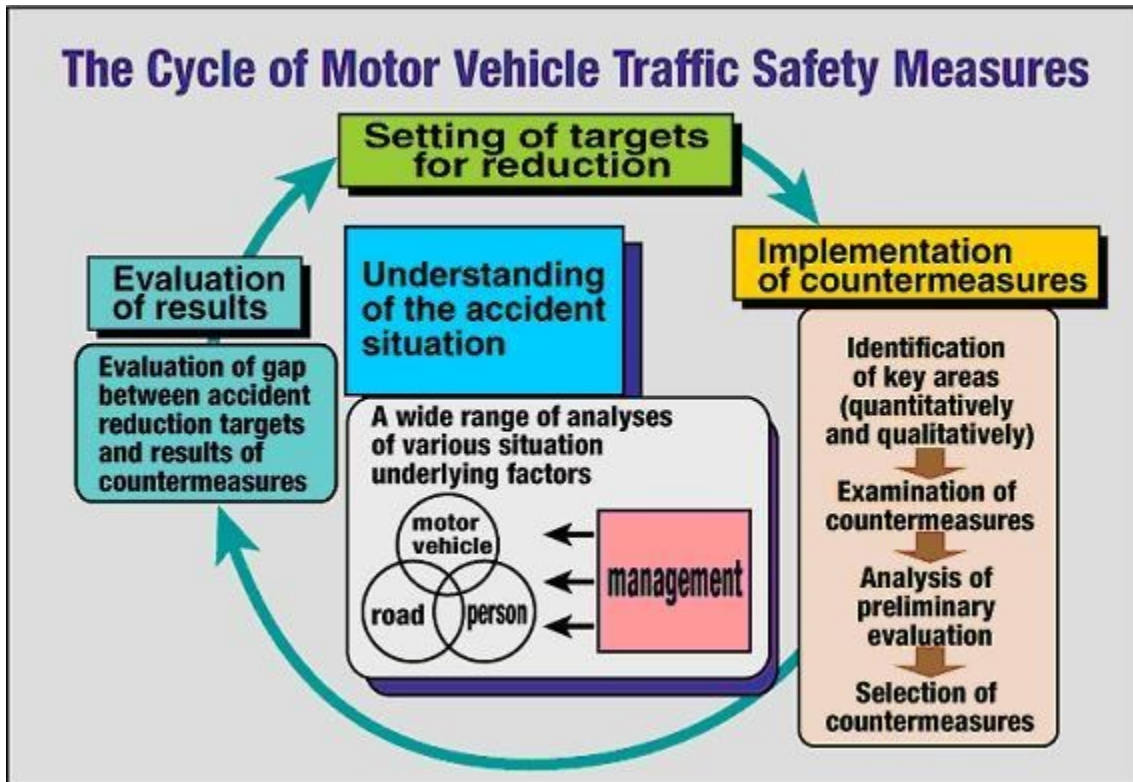


How best to proceed with the motor vehicle traffic safety policy?

Devising truly effective motor vehicle traffic safety policy measures will require certain steps. First of all, it will be important to expand the collection of data on accidents as a ground-laying step. Then it will be necessary to regularly conduct a wide range of analyses of the various underlying factors, in addition to determining the direct cause of the accidents, so as to gain an understanding of the accident situation. Having accomplished that, it will be essential to then look repeatedly to the total picture and at each segment of the total picture in terms of the cycle of motor vehicle traffic safety measures (the setting of targets for reduction--implementation of countermeasures --evaluation of results --the setting of new, lower targets) centered on the "understanding of the real accident situation." (This means shifting from an approach centered on the "car users' morality, i.e., adherence to traffic rules, etc." to a data-centered approach.)

What should the government do about the motor vehicle traffic safety policy?

Motor vehicle traffic accidents can not only cause serious physical and economic damage and mental anguish to the injured parties but also may have a great impact on third parties.



In view of the spread of motor vehicles and accidents, anyone may either suffer injury in a traffic accident or cause injury, and this is a social problem. It is not proper to leave traffic accident safety measures to the action of market principles as such safety measures have no direct bearing on profits or benefits. This situation will require the active intervention of the government or public sector, including close liaison with traffic safety-related government ministries and agencies and a greater emphasis by the government as a whole on comprehensive countermeasures.

Reduced targets related to MOT's safety measures

MOT has set reduced provisional targets for the year 2010 related to its safety measures in the following sectors.

*Target by individual sector:

Vehicle structure safety policy: The number of fatalities (mortality within 30 days following the accident; the same hereinafter) is to be reduced by 1,200.
Commercial vehicles' operation safety policy: The number of accidents involving commercial vehicles is to be reduced by 20% (corresponding to a reduction of approximately 170 fatalities).

*Overall target of MOT's policy measures:

The overall target is to reduce the number of fatalities by 1,500 by means of a comprehensive approach consisting of such measures as the formation of safety-oriented traffic systems in addition to MOT's safety measures for vehicle structure and commercial vehicle operation.

Points requiring attention when implementing motor vehicle traffic safety measures

*There are at present demands for deregulation, especially with respect to economic regulations. Safety regulations, however, should not heedlessly take the path of deregulation. Instead, the need for and results of safety regulations should undergo thorough examination and such regulations should be expanded as needed.

*Safety policy measures should be combined with guidance measures that take advantage of market principles so that vehicle users, prompted by information about safety, will make appropriate selections.

*Technological advances will contribute greatly to safety measures. It will, therefore, be important to adopt safety regulations and safety guidance measures that will encourage technological development, including the development of sophisticated Intelligent Traffic Systems (ITS).

*In view of the fact that Japan is entering the era of the aging society, it will be essential to examine effective measures to prevent accidents involving senior citizens.

The Collection, Analysis, and Application of Accident Data

A comprehensive understanding of the real situation of accidents derived from the collection and analysis of accident data will be essential in every segment of the vehicle traffic safety policy measure cycle so as to be able to set reduced targets, implement the measures, and make effective evaluation of the results. Safety measures carried out without such an analysis are in effect "practicing medicine without recourse to postmortems." An accurate understanding of the real accident situation is the foundation of the vehicle traffic safety policy measure.

Safety Policy Measures for Commercial Vehicles

Commercial vehicles have special safety problems depending on the category of business, and at the same time accidents involving such vehicles may often have great social effects. As a result, safety measures for commercial vehicles require appropriate, carefully considered responses.

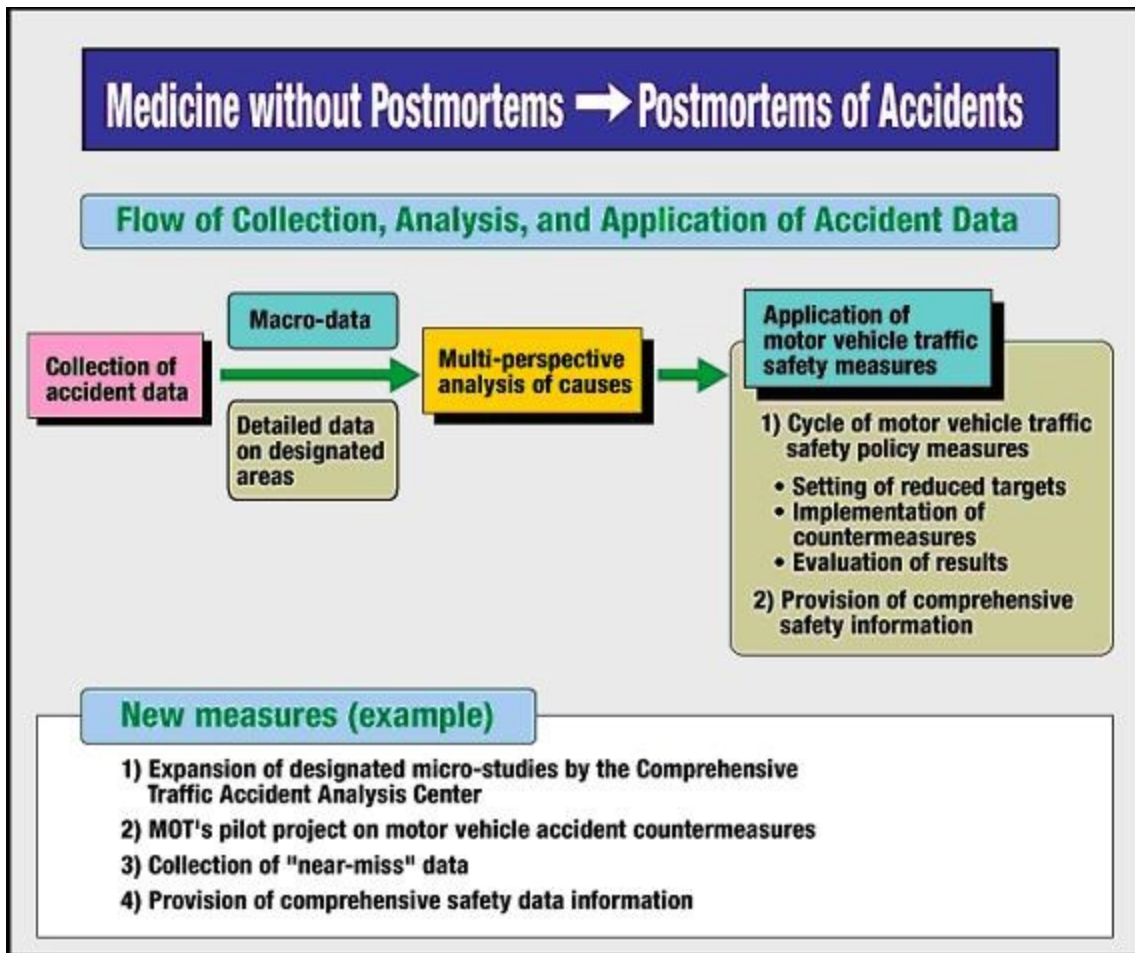
The causes of accidents are usually believed to be attributable to errors made by drivers. However, in the case of commercial vehicles, it is important to look not only at drivers' errors, but also to identify the problem points that may be buried out of sight in transport operators' business routines so as to derive maximum benefit from an expansion of safety measures aimed at parties in the transport business.

Vehicle Safety Measures

Ensuring vehicle safety requires both advances in the development of safer vehicles as well as efforts to facilitate the spread of such vehicles. At the same time, it will be important to raise the awareness of vehicle users regarding the proper ways to use their vehicles.

The necessity of vehicle safety measures

While the rising number of vehicles in use is leading to pressure for an increase in acci-



dents, technological advances are setting the stage for broader expectations of the benefits resulting from vehicle safety measures. Vehicle safety measures will be important more than ever.

The process of undertaking measures

The importance of adopting an approach focused on critical areas.

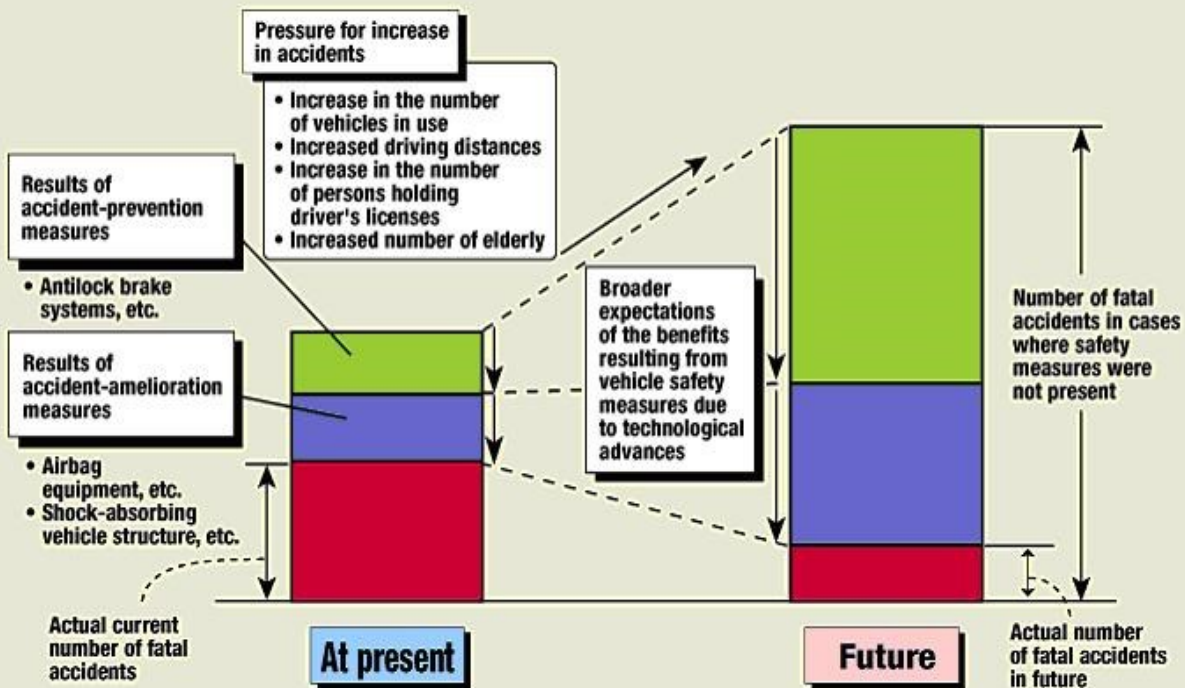
Assistance Measures for Persons Injured in Traffic Accidents

There are social needs not only to make liability insurance payments under the self-compensation system more equitable, but also for measures to assist persons injured in traffic accidents and ameliorate damage.

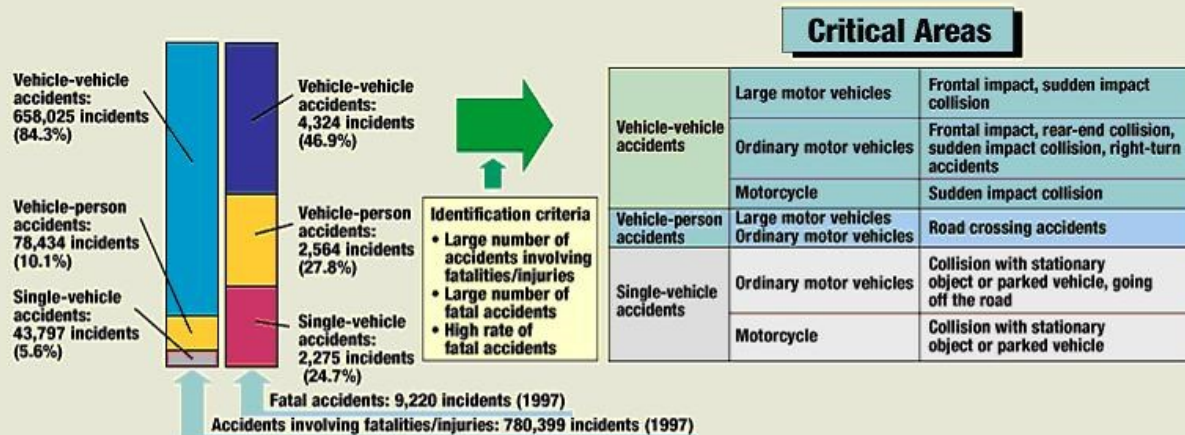
Others (concerning policy measure outlays to proceed with traffic safety measures)

Here it will be important to give due thought to not placing an excessive burden on vehicle users by, on the one hand, facilitating the emplacement and expansion of projects with major policy measure effects and, on the other hand, reducing the budgets and undertaking the

Necessity of Vehicle Safety Measures



Identification of Critical Areas



Implementation of new measures (example)

Encouragement of the development of safer vehicles and safer equipment

- 1) Early development of Advanced Safety Vehicle (ASV) for practical use
- 2) Expansion of comparative testing related to vehicle safety

Encouragement of the spread of safer vehicles and safer equipment and stimulating awareness of proper use

- 3) Expansion of vehicle assessment business
- 4) Expansion of measures to reduce the burden on vehicle users
- 5) Encouragement of the use of safety equipment and stimulation of awareness of proper use
- 6) Expansion of awareness activities through participatory experiences

rationalization of projects that will yield only minor results.

United Nations Conference on Trade and Development

INSTITUTIONAL AND TECHNOLOGICAL CHANGES IN TRANSPORT/LOGISTICS FIELD

Executive summary

This report highlights the essential changes having taken place in the technological and institutional areas of the transport and logistics markets and their influence on the developments in this area. It describes the growth of outsourced logistics services and the respective roles of the different players involved in the providing and using of such services. The influence of recent technological developments, such as greater use of multimodal transport, information technologies, EDI, and innovations in the field of containerization is outlined in Chapter I.

Chapter II deals with innovations in the legal and institutional spheres, focusing in particular on the reforms taking place in rail transport.

International trade is facilitated by efficient door-to-door logistics chains, simple trade formalities, procedures and operations. To remain competitive, buyers and sellers must reduce or, where possible, eliminate the various transaction costs that are included in the sale price of their goods. To do so it is essential to improve the quality of international transport and logistics at one national level, adapt commercial practices to international standards and remove all unnecessary trade barriers. The efficient operation of transport modes and interface facilities - resulting from reduced physical barriers and institutional interference and simplified legal regimes - is a prerequisite for effective improvement of international trade and transport operations.

The lack of efficiency in such trade-related services as customs, transportation, banking and insurance, telecommunications or business information is a major impediment to the integration of developing countries in the world economy. As part of its technical cooperation and training activities UNCTAD organizes workshops and seminars in the field of international trade facilitation and transport. The objectives of UNCTAD's activities in these areas are not only to focus on improving the physical features (the "hardware") of the transport network, but - more importantly - on improving the performance of transport operators and auxiliary services, changing the legal environment and the commercial

behaviour of users, and introducing innovative relations between public institutions and transport providers and users (the "software") of international trade and transport/logistics. This may be achieved by reducing or eliminating the lack of coordination among the many parties to a trade transaction and establishing appropriate *forums* for transparent discussions between public and private sectors regarding the simplification of procedures, documentation and frequently excessive regulations which inhibit exports and increase the costs of imports.

In this context a review of recent developments in the technological and legal environment is important in order to provide developing countries with practical information that will permit them to monitor the situation and take appropriate measures. Governments have an important role to play in providing the proper legal and institutional environment for fostering an effective national transport/logistics sector.

Main technological developments

Global logistics services

- With the globalization of production, supply and distribution in many branches of the industry, the logistics market has continued to grow together with the trend to outsource logistics and concentrate on the core business. Competitive pressure forces the companies to look for savings in their supply and distribution chains and outsource the logistics function to third party service providers. The modern logistics requirements are speed, frequency and, more importantly, reliability. The main task of logistics companies is a constant search ways to improve the management of their customers' global supply chains. Their basic vision is to operate supply chains on a global scale, supporting the manufacturer and its customers.
- Some industries, such as automobile construction, high-technology manufacturing companies, computers, electrical appliances (TV, video, hi-fi, etc.), electrical household appliances and heavy industry, are the leaders in globalization of their production processes and are ready for the use of the third party logistics services that give them significant benefits from reducing inventories and improving lead time. These industries are global and include companies whose products command markets and are made on different continents. Also, they are dynamic industries characterized by rapid product innovation and complex logistics systems.

Types of services provided by logistics providing companies

- The types of services most often entrusted to external contractors range from the management of customs procedures to the setting up of assembly and manufacturing plants. Most of them commonly include groupage, warehousing, information logistics services, transportation with a selection of carriers and negotiations of tariffs. Some of the value-added services in this area include management of warranty support programmes, return and repair services as well as global logistics services.
- In principle, modern, ambitious logistics providing companies consider three distinctive sets of customers. The first, the largest group of companies, wants traditional transport and distribution services, such as sea, air and inland goods transportation, and the terms of price and quality of transport service are the most important issues for them.

- A second group requires selected logistics services, such as merge-in-transport or pan-european distribution. There is a big value-added element in the demanded services which includes precisely defined high-quality management expectations.
- The third group is looking for supply and distribution chain management services customized to their particular requirements, sometimes covering some of their risks. They would like to buy specified capabilities for specified periods at specified costs, including maintenance. This type of client is increasingly concerned with overall process costs, rather than traditional pricing techniques based on transactions, such as twenty-foot equivalent unit (TEU) rates, which are favoured for standardized services.
- Another important requirement from the customers' side is for one-stop logistics/transportation shopping. They want a range of capabilities available to them from their principal providers, from basic international ocean service to door-to-door multimodal deliveries and/or logistics service under the control of a single provider (or at least obtained through a single contact or organization). Customers today are less interested in specifying the mode of transport than in the past. Rather, they are going to ask the service provider to help analyse the service-cost trade-offs of the different modes and provide the combination that is most cost-effective as part of an overall distribution pattern.

Potential market for outsourced logistics services

Table 1
Logistics operations outsourcing market by industry
and potential five-year growth opportunities

Source: Containerization International, September 1998, p #67.

The total potential market for third party logistics services is estimated by different sources at \$80 to 700 billion per annum, but what is certain is that this market is growing. Only a small percentage of the market is at present operated by the logistics companies. A major United States logistics company has identified the potential outsourcing logistics business from five selected industries. This is reproduced in Table 1.

Industry	Logistics Operations outsourcing market in 1997 (\$ billions)	Annual Growth Rate (1997-2002)
Aerospace / defence	3.7	11.6
High Tech Manufacturing	10.5	19.9
Medical Supplier Equipment	5.7	18.3
Pharmaceuticals	1.6	22.4
Retail	17.4	17.2
Total potential outsourcing opportunity	38.9	

The annual growth in the use of third-party logistics services in the coming years is expected to be about 10 to 15 per cent in Europe and 20 to 30 per cent in the United States.

Leading multimodal transport operators have become heavily involved in distribution and warehousing activities in developing countries and countries in transition, with the creation of their own logistics networks, providing complete transport services.

A dramatic growth in the logistics market has been noticed in some developing countries. For example, in India third party logistics business has been increasing at the rate of 30 per cent each year, while the rapidly developing economy of China has created the conditions for setting up a new comprehensive logistics, transportation and distribution venture jointly established by different national entities to provide a logistics network, with extensive use of information technology and logistics management for fully computerized warehouse management and cargo tracking systems and to offer integrated and cost-effective logistics services in various parts of the country.

However, in developing countries many barriers, ranging from poor infrastructure to cultural, linguistic and economic diversity, stand in the way of the development of this type of service, especially when it comes to transborder trade. Many of these barriers may be overcome with the proper use of information technology.

Freight forwarders and non-vessel operating common carriers

The role of freight forwarders and non-vessel operating multimodal transport operators (NVOMTOs) is vital in providing third-party logistics. Their success depends very much on the competitiveness and cost-effectiveness of the services provided by them. The leading players in this field profit from offering the use of information systems for automatization of documentation and cargo tracking, global geographical coverage and the services of first-class carriers. The successful future of a company will depend on its ability to satisfy customers' demands. It will need to know what the customers want and then provide a level of service that meets those requirements.

The growing volumes of ocean, inland and air freight traffic, handled by freight forwarders and NVOMTOs, along with the rising demand for global logistics services, enable the leading companies to become even more dominant in the market and may result in the demise of many smaller forwarding companies, especially in developing countries and countries in transition. But the quality of services provided always plays the major role in the competitive environment: superior service provides for greater profitability than chasing volumes at low prices. In this context, smaller companies may survive and even outperform bigger ones by supplying niche services, specializing in the areas of their knowledge and experience. They can react better and faster to the specific needs of their customers, sometimes going beyond usual forwarding activities to the domain of logistics providers.

Multimodal transport

Since the cost of transportation represents about 20 to 25 per cent of the world's gross product, effective distribution and supply chains play a leading role in the modern competitive environment. The demands of the global economy and the logistics on which it depends for production and distribution have made intermodalism - the interconnectivity of and between modes of transport - an indispensable tool. Intermodal transportation, particularly that which is performed as multimodal transport, is a link between domestic and global production and the marketplaces and is the dominant factor in economic

development and economic survival.

It is no longer enough to address port-to-port problems without taking into account total logistics chains. The global economy requires a reliable and frequent door-to-door transport product at reasonable cost. Particularly important for customers is the transparency of pricing and the partnership approach. In this respect, multimodal transport should become a prime shippers' option and a carriers' cost-cutter. Single billing and responsibility, along with decreased transit times, are decisive advantages for the former, while high handling efficiency and better equipment utilization are the advantages for the latter. Concerning concrete modes of transport, at a global scale in many cases such a product could be obtained from combining the advantages of sea and air transport.

Air transport has grown in terms of global revenue per tonne/kilometre by an annual average rate of 9.1 per cent since 1985. It accounted for 37 per cent of the value of global trade in 1996, and the extrapolation of the value parameter to the year 2005 brings it to over 50 per cent of global trade by value. For example, European airports handled 7.5 million tonnes of cargo in 1997. This should be compared with the annual tonnage of containerized goods handled at Europe's largest container port, Rotterdam, which amounted to 5,340,000 TEUs, or 58.3 million tonnes in 1997.

One of the new forms of business in air cargo is the integrated airfreight companies that have been very successful in providing their customers with smaller groupage cargo services. These integrated carriers can offer very short transit times and highly effective administrative arrangements.

The inland distribution of goods must be designed to overcome environmental and congestion problems that will beset any new products that are not properly thought out. Developments in the European Union (EU) have led to a situation in which 65 per cent of all cargo is moved by road transport, while rail use has fallen to 15 per cent. This trend is equally applicable to the developing and transition economies, where road transport in recent times has been growing, to the detriment of railways and inland waterways. Transport users have to adjust their thinking in order to maintain standards and cost effectiveness in transport in an era of increasing road costs and congestion. Supply and distribution chains should be adjusted to incorporate more environmentally friendly rail and inland water transport. Unlike road-based transportation, the rail networks and inland waterways often have spare capacity, and by investing in developing this capacity, those modes of transport should be able to absorb additional volumes.

Use of information technology

Critical to effective global logistics services is the use of information technology. Realtime information is not only required by shippers to optimize their inventory-in-motion management, but also by transport operators and service providers to increase their planning capacity and enhance their services.

The Internet and electronic data interchange (EDI) play an increasingly large role in transport and logistics services as the management of information becomes as important as the management of the shipment itself. Full tracking of cargo, flexibility and quick response can be obtained only with the full use of the advantages of this technology. Transport operators who do not want to end up as mere suppliers of a commodity transport service product must invest in the necessary information systems. The Internet, and particularly the World Wide Web facility, has been found to be an effective means for accelerating the movement of trade documentation and for direct commercial applications.

The use of the Internet allows potential carriers to register and submit bids for spot business and annual contracts. It reduces lead time to quote, enhances customer services, and improves the communication links between all parties. A widely used area of the Internet in the transport and logistics field is the trading of new and secondhand containers and other equipment. Some information technology products based on the Internet permit the monitoring of supply chain events and proactively produce relevant alerts on business irregularities relating to physical and administrative activities. These may include activities involved in the air, sea and land movement of goods, freight forwarding, customs, warehousing and distribution, and manufacturing and quality assessment.

The current market environment is often characterized by complexity, high costs, inadequate customer services, lost opportunities and sub-optimization. There is a distinct need amongst all parties in the trade chain to fully automate the processing and exchange of documentation. In order to provide globally guaranteed and secure delivery of trade documentation in electronic form, many conditions should be met, in particular global operational capability, a secure legal framework, harmonized standards, comprehensive data security and the potential for value-added services.

One of the most advanced systems in this area carriers, freight forwarders and transport insurance companies which was developed through the joint efforts of banks, is the Bolero system - an ambitious venture aimed at making electronic commerce a reality in international trade. Its mission is to facilitate cross-border and cross-industry operation of electronic trade through a safe legal environment and a common technology platform. The companies may use the system service to gain a competitive edge without making major infrastructure investment. This will be achieved through improved staff productivity, better access to partners' information and enhanced accuracy in administrative information processing. The transport service providing companies might also be able to extend the range of their services to customers wishing to outsource their logistics.

Another important project in the field of information technology is the MARTRANS project developed within the framework of pilot projects launched by the EU with a view to shaping the information society. The initial goals of the system were to set up a logistics information network for real-time information on cargo and vessels by interconnecting existing EDI-Port Community Systems and implementing new EDI systems in non-automated ports. But in accordance with the shift in the EU transport policy towards integrated transport and the requirements of the transport users of integrated logistics services, the focus of the project was shifted to intermodal transport. This should allow operators and service providers to optimize process and provide transport users with better supply chain management.

Use of non-ISO standard containers

Due to the superior quality of transportation and the corresponding cost savings, the share of transport in containers in the general cargo market has continuously increased, its volume in 1997 was more than 150 million TEUs. The container is the most important element in the modern transport and logistics chain; no new transport technology is envisaged to replace container transport in the foreseeable future.

By the second half of 1997, the global fleet of maritime containers totalled 10,982,586

TEUs, or 7,611,630 real units. ISO standard dimensions containers continue to be the leading and prevailing container types in total container trade, their share in the total container population continues to predominate, as can be seen from Table 2. It was generally recognized that the stability of international standards on container dimensions is of paramount importance for the development of modern transport and logistics chains, especially where a sea leg is involved. The stable character and the worldwide application of international standards of container dimensions and rating have permitted operators and manufacturers throughout the world to have confidence in long-term developments and investments in the sector. UNCTAD's role is in maintaining the stability of international container standards (which is especially important in the case of developing countries) is well known.

Table 2
Container population profile in terms of ISO dimensions share, in TEUs

Source: Containerisation International Censuses for 1994 and 1997

However, specific requirements of certain transport and logistics chains have led to the introduction on the market of loading units that provide more cargo space than is possible with the present ISO standards. Since the early 1990s, ISO has been working on the development of ISO series 2 containers, coming out with draft standards for second-generation containers. The issue of this new generation of standards is a highly contentious creating divisions between developing and developed countries (and even between some of the developed countries themselves). The unilateral introduction of oversized containers will put the developing countries at a disadvantage, as in most such countries ISO series 1 containers have been the basis for relatively recent large-scale investments in infrastructure, rolling stock and handling equipment. Without an agreement on the issue of a new international standard, the introduction of non-ISO containers for international and domestic operations continues. The latest containerisation International census identified over 60 separate categories of regional/domestic containers which numbered 414,666 TEUs (calculated on an equivalent length basis), or 243,518 real units. These regional/ domestic containers were grouped as follows:

- North-American domestic containers, comprising units used in intermodal rail and road

Type of container	1994	1997
ISO-dimension (20- and 40-foot)	7984135	10567920
Non-ISO dimension (other length)	355297	414666
Total	8339432	10982586

service. The majority are 48 feet long, although the number of 53 feet long containers is growing. The external width of these containers is 8 feet 6 inches;

- European (and Australian and South African) pallet-wide containers, comprising 20- foot, 30-foot and 40-foot units of non-cellular construction. External width is 2.5 m;
- European-style swapbody containers, comprising the majority of units built to withstand the tests prescribed by ISO standards. Most are from 7 to 8 m or 13.6 metres long. External width is 2.5 m.

Such developments in containerisation technology should be carefully monitored in order to

prevent developing countries from being bypassed in their efforts aimed at integration into the world economies.

Changing pattern of maritime trade

Maritime transport plays a leading role in international trade. Major container carriers and specialized shipping lines are seeking to strengthen their control over the integral logistics chain to ensure the cost efficiency of their operations. At the same time, under the new conditions created by the constant growth of container trade and new legislation measures (United States Ocean Shipping Reform Act, European Union judgement on TACA), alliances between shippers and carriers and between the carriers and other logistics services providers are strengthening.

Table 3
Recent changes in medium/large containership fleet

Source: LSE/Boxfile Containership Database. Figures are rounded, and totals therefore may not tally.

Table 4
Distribution of the world fleet and TEU capacity of fully cellular containerships by groups of countries, in 1995, 1996 and 1997
(end-of-year figures)

Source: Review of Maritime transport 1998. Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London). Percentages in italics.

The ports are striving to accommodate demands from container carriers who tend to shorten the transit time of containers by offering the most direct routes for larger container ships and reducing the number of ports of call, while at the same time covering the different subregions through a network of feeder lines serviced by smaller vessels. Table 3 illustrates the recent changes in the world containership fleet and Table 4 shows the distribution of the world containership fleet by groups of countries.

	1000-24999 TEUs		2500 TEU +		Total	
	Vessels	Total TEU capacity	Vessels	Total TEU capacity	Vessels	Total TEU capacity
Fleet on 31.12.97	966	1472900	544	1922400	1510	3395300
Fleet on 31.08.98	1028	1583200	583	2100500	1611	3683700
Change %	6.4	7.5	7.5	9.3	6.7	8.5

Chapter II Legal and institutional developments

Legal regulations

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares		
	1995	1996	1997	1995	1996	1997
World total	1771	1954	2204	2720092	3089682	3632070
				<i>100</i>	<i>100</i>	<i>100</i>
Developed market -economy	441	592	672	827618	1170879	1398781
				<i>30.4</i>	<i>37.9</i>	<i>38.5</i>
Major open-registry countries	609	683	800	898270	1066261	1315130
				<i>33.0</i>	<i>34.5</i>	<i>36.2</i>
Total Developed market & open registry countries	1050	1275	1475	1725888	2237140	2713911
				<i>63.5</i>	<i>72.4</i>	<i>74.7</i>
Countries of Central & East Europe (inc USSR)	50	45	35	29502	27120	23276
				<i>1.1</i>	<i>0.9</i>	<i>0.6</i>
Socialist Asia	67	98	99	95173	95883	96739
				<i>3.5</i>	<i>3.1</i>	<i>2.7</i>
Developing Countries	384	441	504	453478	549555	628999
				<i>16.7</i>	<i>17.8</i>	<i>17.3</i>
Africa	5	5	8	4779	4779	9117
America	109	126	138	86566	108552	119299
Asia	263	305	353	357282	431669	496028
Europe	4	5	5	3711	4555	4555
Oceania	3	-	-	1140	-	-
Other, unallocated	200	95	91	416051	179985	169145
				<i>15.3</i>	<i>5.8</i>	<i>4.7</i>

In the field of legal regulation of multimodal transport services, new administrative regulations for multimodal transport of international containers were introduced in China as from 1 October 1997. The conditions for multimodal transport now include a new licensing system, a new liability regime and a prohibition against foreign operators working outside of joint ventures with Chinese partners. The tighter licensing system means, in particular, that foreign operators have to set up a company in the country and comply with a number of

fiscal and business criteria. Licenses will be limited to a three-year period, after which operators will have to apply for a renewal document.

The new rules cover all container moves between any inland point in China and any port/point overseas, where part of the move involves the use of road, rail and/or barge/coastal ship. As a further step towards tightening control over foreign transport and logistics services providers in China, a new regulation was introduced prescribing the mandatory use of computerization in their activities.

The European Commission's Directive 91/40 identified intermodal traffic as the most suitable means for liberalization of rail transport, introducing the open access concept for companies outside the railway administrations to operate their own trains on public tracks. While until 1993, Intercontainer-Interfrigo (ICF) was the only cross-border rail service provider for container traffic, by 1997 there were already no less than a dozen operators running their own shuttle trains on the European railways.

The private sector is deeply involved in operating shuttle trains through joint ventures and partnership between ports, shipping lines and state railways. The operator usually leases the wagons and negotiates a price for having the train moved by the state railways' locomotives and crews in keeping with an agreed timetable.

One of the main results of deregulation in the field of European rail transport has been the creation of the concept of freightways - established routes putting through routes and rates. The main players in this field are major intermodal companies engaged in deep-sea container traffic through the European ports. However, maritime containers form only a small portion of the total tonnage which needs to be switched from road to rail transport for a sustainable transport policy to be realized. Freightways were also intended to, and are currently carrying a significant numbers of domestic containers and swap-bodies.

In the United States, a concrete sign of recognition of intermodal transport from the legal point of view was the Intermodal Surface Transport Efficiency Act of December 1991. Congress recognized the importance of the intermodal approach to the country's transportation system and established the National Commission on Intermodal Transportation to make a complete investigation and study of intermodal transportation in the United States. The law directed the Commission to recommend ways to speed national conversion to an efficient intermodal transportation system. In its final report the Commission issued three groups of recommendations addressing policy measures, investment issues and the restructuring of government institutions to improve intermodal transportation.

The United States Ocean Shipping Reform Act of 1998, approved by the House of Representatives, is expected to be implemented in May 1999. The legislation will cover the complete movement of goods from their origin abroad to their final destination in the United States and vice-versa, so it will apply to any carriage that includes a sea segment, where the place of receipt or delivery of goods, or the port of loading or discharge of the goods, is, or is intended to be, in the United States. This legislation is a result of many compromises reached between the interested parties during the drafting and discussion stages.

According to the opinions expressed in many instances, the entry of the act into force will contribute to the alliances between shippers and transport operators. The companies that, under the new act, have been reclassified as transportation intermediaries, but i.e. NVOCCs and freight forwarders are not, however, included in this compromise and may be placed in

a difficult position, in competition with other providers of transport services. While the act will enable shippers to negotiate confidential rate agreements with ocean carriers, it may weaken the position of NVOCCs and freight forwarders, especially smaller ones, who may risk becoming irrelevant in handling the traffic of large-volume shippers.

Rail transport reforms

In their efforts to make railway transport more efficient, the governments are taking steps to reform their rail networks and to involve the private sector more actively in the operation of rail transport. While EU Directive 91/40 required only that infrastructure accounts should be separated from those of operations, it also required that socially necessary passenger services, intercity passenger services and freight services should be treated separately in accounting in order to show that state subsidies were limited solely to social passenger services. The directive clearly underlined the institutional separation of infrastructure from operations because infrastructure is seen as a state responsibility, whereas operations (except for social services) are considered a commercial activity.

Not everyone agrees with the separation of the infrastructure and operations aspects of a railway's activity. Many experts disagree with this separation, considering that it artificially separates the natural wheel/rail synergy, the technical fundamentals of railway. It may raise coordination and contention issues across the whole spectrum such as timetabling, maintenance coordination and safety responsibility. The European railway trade unions voiced strong opposition to the separation of infrastructure and operations and to giving third parties' operators to the networks. Apparently, a thorough analysis is required in each individual case in order to find a solution that takes into account the specific situation of a given railway or a system.

Privatization is one of the steps most often used in relation to the rail networks of developing countries, where the condition of the railways often leaves much to be desired.

There are few examples in which railways have been truly privatized, with total private ownership and operation of a network, and all of them relate to the developed market countries. These examples are New Zealand Railways, Canadian National, East Japan Railways, Conrail, and the infrastructure and freight services of British Rail. Instead, a type of concession has usually been preferred by the Governments which allows them to retain ultimate control over the infrastructure while at the same time allowing the private sector to carry out the operational functions and compete for customers in the market. That was the case of several Latin American countries where concessioning began in the early 1990s.

In Argentina, by mid-1990 the Government had agreed on restructuring railway transport into several separate freight and commuter rail networks. Six freight packages were created for concessioning on 30-year terms, with an optional 10-year extension. The concessionnaires have exclusive use of the tracks, although they must grant excess to passenger operations in return for a compensatory track use fee. In Brazil, the Government used the same approach, concessioning six exclusive regional systems as a result of the geographic situation, gauge differences and traffic characteristics of each line.

In Chile, in order to continue the passenger services, it was decided to concession only the freight services, while keeping the infrastructure and passenger services in public hands. In Mexico, the railways were concessioned in a way that maximized the opportunity for crossborder traffic since the country belongs to a free-trade area (NAFTA). The railways

have been also concessioning in Bolivia, Colombia and Guatemala, and concessions are planned in Peru and Uruguay.

In Africa, the Abidjan-Ouagadougou railway was privatized under a single operating concession for 15 years term to a consortium of private sector shareholders. The consortium provides both freight and passenger services and sets its own tariffs for both. A number of other African concessioning efforts are under way or being considered, in particular in Malawi, Mozambique, Zambia, Madagascar, Gabon, Cameroon and some other countries.

In the examples above, rail transport does not play the leading role in the country's transport system. Some railways were on the verge of complete closure. In some developing countries the condition of the railways before the concession required reconstruction, rehabilitation and significant investment from the public authorities to make them attractive to potential buyers. Traffic on many railways after being put under concession was concentrated on some specific traffic, with unprofitable branches being closed, which sometimes lead to the interruption of socially significant services. Privatization does not always result in improved services. In this context there are many complaints, particularly with regard to the shutdown and deterioration of socially important services as a result of economy measures taken in the course of privatization.

In the context of rail transport reform, the experience of the Russian railways deserves special consideration. For geographical, social and political reasons, rail transport in the Russian Federation is the basic mode of transportation and is therefore vital to the survival of the State. In contrast with other industries in that country, where hasty privatization has had disastrous consequences, the railways remain a state property, while at the same time permitting the newly established private companies to use their own rolling stock and enjoy equal access to rail infrastructure.

Currently, about 20 per cent of the total goods wagon fleet are owned by private companies. This system fosters competition among different operators, improves customer service, permits better utilization of rolling stock and generates supplementary revenue. At the same time, the Russian railways have succeed in maintaining high safety standards and to be profitable under conditions of reduced traffic volumes and the absence of state subsidies.

TRANSPORT News

