

51/8. Implementation of the New Delhi Action Plan on Infrastructure Development in Asia and the Pacific^a

The Economic and Social Commission for Asia and the Pacific,

Recalling General Assembly resolutions 45/199 of 21 December 1990 on the International Development Strategy for the Fourth United Nations Development Decade, and 47/190 of 22 December 1992 on the report of the United Nations Conference on Environment and Development,

Recalling also Commission resolution 236 (XL) of 27 April 1984 on the proclamation of the Transport and Communications Decade for Asia and the Pacific, 1985-1994, and General Assembly resolution 39/227 of 18 December 1984, by which the Assembly proclaimed the Decade,

Recalling further Commission resolution 47/10 of 10 April 1991 on phase II of the Transport and Communications Decade for Asia and the Pacific, reaffirming the critical role of transport and communications in economic development and the importance of the improvement and growth of transport and communications infrastructure and services in a manner commensurate with the anticipated growth of all sectors of the economy generating the demand for transport and communications,

Recalling Commission resolutions 48/1 of 23 April 1992, on the declaration on enhancing regional economic cooperation, known as the Beijing Declaration on Regional Economic Cooperation, in which the Commission urged strongly that greater cooperation in the development of infrastructure should receive high priority, and 50/1 of 13 April 1994 on the Delhi Declaration on Strengthening Regional Economic Cooperation in Asia and the Pacific towards the Twenty-first Century, in which, *inter alia*, the Commission declared that it would launch concerted efforts for the development of physical infrastructure, and accord due recognition to the transport and communication links required to facilitate regional trade and economic cooperation,

Recalling also Commission resolution 50/2 of 13 April 1994 on the action plan on infrastructure development in Asia and the Pacific, in which the Commission recognized the recent developments in the four main areas for regional cooperation in infrastructure development: the sharing of experience and human resources development; the consideration of issues surrounding the mobilization of financial resources; the development of regional policy and the regulatory environment; and joint development of mutually beneficial infrastructure projects,

Recognizing the critical need for the provision of adequate infrastructure for economic and social development in Asia and the Pacific, and bearing in mind the special needs of the least developed, land-locked and island developing countries, as well as the disadvantaged economies in transition, in the development of their infrastructure,

Noting the suggestion of the Commission at its fiftieth session that in view of the increasing emphasis being placed by members and associate members on the importance of infrastructure development, consideration should be given to enlarging the scope of the Committee on Transport and Communications to encompass all areas of physical infrastructure,

Recognizing that international, regional and specialized lending agencies, including the World Bank, the Asian Development Bank, the European Development Bank, and the Islamic Development Bank, can play a catalytic role in attracting the financial resources of commercial banks, insurance companies and various other funds through the provision of equity finance to infrastructure projects in member countries,

Recognizing also the magnitude of investments required for infrastructure development, and the need for serious and concerted efforts to be made by all concerned — the Governments, the private sector, the donor countries, and the international agencies — towards that end,

Recognizing further that private sector participation should expand to all areas, including ownership, financing, management, operations, risk-sharing and development of infrastructure, in the context of national planning,

Noting the successful outcome of the World Infrastructure Forum - Asia, held in Jakarta in October 1994, and its decision to establish an Asia Infrastructure Development Alliance,

1. *Adopts* the New Delhi Action Plan on Infrastructure Development in Asia and the Pacific, 1997-2006, as annexed to the present resolution;

2. *Decides* to convene in 1996 a ministerial conference on infrastructure to launch the New Delhi Action Plan as well as to review phase II (1992-1996) of the Transport and Communications Decade for Asia and the Pacific, and welcomes the offer of the Government of India to host the above ministerial meeting and the World Infrastructure Forum - Asia, 1996 concurrently;

3. *Invites* members and associate members to adopt policies to make the provision of infrastructure more sensitive to user demand;

4. *Requests* all members and associate members in the region to take immediate initiatives in identifying areas for action to promote their infrastructure development, and to apply the Action Plan

^a See para. 375 above.

as a guideline in accordance with the differing economic and social conditions prevailing in the countries and areas of the region;

5. *Invites* members to establish national focal points for infrastructure development to oversee the implementation of the Action Plan at the national level and to participate actively with all agencies and subregional organizations involved in supporting regional action, and invites associate members to do likewise;

6. *Urges* members and associate members to strengthen the partnership between the public and private sectors and to promote the active involvement of the private sector, in particular for infrastructure development, financing, management, operations and risk-sharing;

7. *Requests* the Committee on Transport and Communications, at its second session, to review its terms of reference, including its name, to cover aspects related to the development of physical infrastructure facilities and services, and tourism, for submission to the Commission at a future session when the review of the conference structure of the Commission will be undertaken;

8. *Invites* the World Bank, the Asian Development Bank, the Islamic Development Bank and all United Nations organizations and specialized agencies concerned with the planning and development of transport, communications, electric power and water in the region, as well as bilateral donor countries and the members and associate members of the Commission, to cooperate and coordinate their activities with the secretariat in the implementation of the Action Plan at both country and regional levels;

9. *Welcomes* the recent initiatives taken by the agencies for the preparation of project profiles in support of the Action Plan, and requests the Committee on Transport and Communications to review the profiles with a view to developing a regional action programme for implementation during the first half of the Action Plan period;

10. *Requests* international, regional and specialized lending agencies to make equity finance and loans available to sound infrastructure projects where such participation is likely to attract further financial resources from other sources;

11. *Requests* all concerned donor countries, donor agencies and intergovernmental and non-governmental organizations to provide financial and technical support for the ministerial conference on infrastructure;

12. *Urges* the United Nations Development Programme and other funding agencies, as well as donor countries, to provide the requisite funds to support the implementation of the Action Plan in the region;

13. *Requests* the Executive Secretary:

(a) To mobilize resources for preparatory activities leading to the ministerial conference on infrastructure;

(b) To report to the Commission at its fifty-second session on the progress in the preparations for the ministerial conference;

(c) To report to the Commission at its annual session until the last year of the Action Plan on its implementation;

(d) To encourage active involvement of the private sector in the implementation of the Action Plan and promote cooperation between the public and private sectors;

(e) To provide for the active participation of the secretariat in the activities of the proposed Asia Infrastructure Development Alliance;

(f) To ensure the availability of adequate human resources to enable the secretariat to monitor, coordinate and report effectively and efficiently on the implementation of the Action Plan;

(g) To review and refine periodically the regional action programme and the project profiles to ensure their continued relevance to changing conditions in the region;

(h) To ensure that the proposals for supporting action at the regional level embodied in the Action Plan are reflected in the medium-term plan.

12th meeting

1 May 1995

Annex

NEW DELHI ACTION PLAN ON INFRASTRUCTURE DEVELOPMENT IN ASIA AND THE PACIFIC

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Introduction

1. The Commission at its forty-ninth session, held at Bangkok in April 1993, decided that the theme for its fiftieth session would be "Infrastructure development as key to economic growth and regional economic cooperation"¹ and directed the secretariat to undertake a study on that topic.

2. The Commission directed that the study should, *inter alia*, focus on an assessment of the magnitude of the deficiency in the physical infrastructure facilities in the developing countries, as well as in the disadvantaged economies in transition of the region, the resources required for addressing that deficiency and the measures needed to attract private investment, both domestic and foreign, for establishing infrastructure facilities. The successful experience of countries in the region in attracting private investment in infrastructure development, as well as the policies needed for efficient management of infrastructure facilities, were also to be utilized. In the promotion of increased investment for infrastructure building, the sustainability of development was to be taken into account. The study was also to focus on areas in which regional cooperation could facilitate the establishment of infrastructure facilities.

3. In response to this directive the secretariat undertook the theme study, *Infrastructure Development as Key to Economic Growth and Regional Economic Cooperation*,² which was further reported in the document, "Infrastructure development as key to economic growth and regional economic cooperation: summary".³

4. As a result of the deliberations of the Commission on the theme topic at its fiftieth session, the Commission adopted resolution 50/2 of 13 April 1994 on an action plan on infrastructure development in Asia and the Pacific. Annexed to that resolution was a draft action

plan which was to be reviewed and amended prior to being submitted to the Commission at its fifty-first session, for consideration and adoption as the New Delhi Action Plan on Infrastructure Development in Asia and the Pacific.

I. INFRASTRUCTURE REQUIREMENTS

5. The provision of adequate infrastructure is one of the necessary conditions for sustainable economic and social development. However, in a number of countries of the ESCAP region, power brown-outs or black-outs, traffic congestion in major cities, limited road access to provincial markets and capitals, inadequate rail services, long waiting times at major ports, inadequate telecommunications services, including long waiting lists for telephones, many of the region's airports operating at their designed capacity and shortages of irrigation, drinking and industrial water all bear witness to the inadequacy of existing infrastructure facilities.

6. The study undertaken by the secretariat for the fiftieth session of the Commission found that by the year 2000, electrical generating capacity in the region as a whole needed to be doubled, main line telephone connections increased by 180 per cent, an extra 2 million kilometres of roads constructed (a large proportion of which would be rural roads), 41,000 kilometres of railway track laid and 140 container berths built.

7. The study estimated that the financial resource requirements for investment in infrastructure in the developing countries of the ESCAP region, between 1993 and the year 2000, were around \$1,500 billion. Of this amount, \$500 billion was identified as available and already committed to projects from domestic and international sources. Consequently, the financial "gap" amounts to around \$1,000 billion. This, however, was most likely an understatement as, for example, detailed cost estimates for rehabilitation work were not included.

8. To place those estimates in perspective, the total amount required to fill the gap is approximately equal to the combined gross national product (GNP) of China, India and the Republic of Korea in 1991. It is also more than 40 times the GNP of Bangladesh. In relation to the international lending agencies, the combined lending in 1992 of the World Bank and Asian Development Bank was around \$27 billion, of which around \$7.5 billion was for transport, telecommunications, energy, urbanization, water supply and sanitation in countries of the ESCAP region. If similar amounts were lent each year to the year 2000 it would amount to less than 10 per cent of the identified additional financial resource requirement. Official development assistance (ODA) is also a significant source of finance for infrastructure development. However, it is unlikely that sufficient funds will be found from these external sources to close the gap.

¹ Report of the Economic and Social Commission for Asia and the Pacific on its forty-ninth session (*Official Records of the Economic and Social Council, 1993, Supplement No. 16 (E/1993/36-E/ESCAP/927)*, para. 533.

² ST/ESCAP/1364.

³ ST/ESCAP/930.

9. In most developing countries, Governments have, for some considerable time, played a dominant role in the finance, development, operation and maintenance of infrastructure facilities. However, in several countries resources from public sector savings are insufficient to finance infrastructure development. Additionally, competing demands for government financing have placed ceilings on the funds available, resulting in a reliance on borrowing from both internal and external sources. This in turn has increased the burden of interest and capital payments and increased inflationary pressures. In view of these problems some Governments have reduced capital expenditure on infrastructure, further exacerbating the shortfall in infrastructure capacity.

10. In the face of these constraints, solutions are being sought in two directions. First, through inviting greater participation by the private sector, both foreign and domestic, and second, through addressing core issues which are creating inefficiency in the infrastructure sector.

II. ISSUES TO BE ADDRESSED

11. The theme topic study showed that there is considerable scope for further improvement in productivity and that complementary measures in the area of improving efficiency will reduce the demand for resources while creating an environment to attract the private sector finance, thereby sharing the investment burden.

12. The following policy issues related to infrastructure development were discussed within the study.

Information

13. One of the initial findings of the study was that the quality of information concerning existing infrastructure, its condition and availability, the efficiency with which it was used, the underlying demand and the cost of providing it varied across countries. As a result, there were many cases in which there was insufficient information to make important resource allocation decisions.

Administration

14. The means by which infrastructure subsectors were administered were widely regarded as a major impediment to the efficient provision and operation of services and facilities. Typical obstacles included regulation of prices, controls on maintenance and investment decisions, inability to retain profits, responsibility for the provision of various welfare services and facilities, lack of public sector funds for investment and inability to attract or retain qualified staff.

Pricing

15. The regulation of prices almost invariably meant that they were lower than the cost of providing the services and facilities of the infrastructure subsector's output. In addition, there was a considerable time-lag between the application for a price increase and the granting of the necessary permission. Such underpricing of infrastructure facilities had two main effects: first, resources were used inefficiently, and second, there were insufficient funds for the self-financing of the infrastructure subsectors — in fact, some infrastructure subsectors had been a major drain on public sector funds.

Public sector financing

16. The financing of infrastructure development had been primarily in the domain of the public sector. The magnitude of the financing task, coupled with various institutional and policy considerations, largely dictated that a substantial proportion of that finance would continue to be derived from the public sector. The principal sources of funds were domestic resources and self-financing.

17. Analysis of the fiscal regimes in countries of the region indicated that there was still appreciable room for increasing government revenue. At the same time, fiscal instruments could be better designed and innovations, such as value-added taxation, could be introduced more widely. The issue of importance to the infrastructure sector related again to the allocation of increased revenue to the sector.

Coordination

18. Within many infrastructure subsectors there was a lack of coordination between the various ministries and departments involved in the decision-making process. That slowed down the implementation of infrastructure development. The problem was compounded when coordination was required with other ministries and departments outside the subsector. For example, transport planning and land-use planning should be part of an integrated process; in many instances, that was not the case. Consequently, policies that addressed the questions of "internal" and "external" coordination needed to be considered and implemented.

Planning

19. As adequate funds to close the infrastructure gap were not available from traditional sources, attention must be focused on the planning agencies' role in setting priorities for national development. The current manifestations of the inadequate provision of infrastructure facilities in countries of the region strongly suggested that reviews of the planning process were also required in that area.

Management and operating efficiency

20. Some of the public sector losses could be reduced with more efficient management and operation of infrastructure facilities. While a number of initiatives had been taken in the direction of developing corporate planning approaches to management and implementing management information systems, on the whole, management procedures were outdated and in urgent need of major upgrading. Without such performance-oriented tools and procedures it was difficult for management to locate the areas within the organization in which major losses were occurring, the causes of low productivity levels and the appropriate remedial actions.

Maintenance

21. Maintenance was another area which had been seriously neglected in the infrastructure subsectors. There was an important trade-off between capital and maintenance expenditure; significant savings could be made in overall expenditure through adequate allocations to, and effective management of, maintenance activities.

22. One of the causes of low productivity and inattention to maintenance was that the planning system in most countries was oriented towards capital formation at the expense of production management. Consequently, attention needed to be directed towards placing greater emphasis on post-implementation operation and maintenance.

Multimodal transport

23. The provision of infrastructure for and development of efficient transport systems was essential for the development of a country's trade. For many countries of the region, especially the land-locked countries, that required a number of different modes of transport, transit through third countries and border-crossings. Countries of the region needed to consider integrated systems approaches to the transport of goods, multimodal transport, transit arrangements and facilitation of border-crossings.

Private sector participation

24. Private sector participation was a partial solution to some of the problems arising in the infrastructure sector, for example through the provision of funds outside the government budget, the implementation of changes to improve efficiency, and the transfer of technology and management. However, a prerequisite to such participation was a favourable investment climate: that was composed of many elements, including the legal framework for private sector involvement, trade facilitation measures, and macroeconomic stability — especially in relation to prices and exchange rates, and financing costs and arrangements. In inviting private sector participation, Governments would be required to address those elements.

25. From an administrative and legal point of view, the process of involving the private sector was complex. For example, the principle of a build-operate-transfer (BOT) contract was one of risk-sharing, and thus there were a large number of agreements to be made between the principal project company and the responsible government agency, contractors, insurers, operators, lenders, trustee banks and shareholders. The contracts had to be carefully drawn up and implemented in order to ensure that the proposed activities were feasible and in the public interest. Many countries of the region had limited experience in those aspects of private sector participation.

26. In a number of countries, private sector participation, especially in the form of BOT, was viewed as the answer to infrastructure development. However, long lists of projects with the comment "suitable for BOT" were not generating the desired response. In that respect, consideration needed to be given to the preparation of project proposals from the perspective of the private sector investor.

Regulation of private sector participation

27. The experience of privatization outside the region suggested that for the infrastructure sector, public monopolies had been replaced by market structures which in many cases needed to be monitored in order to ensure that the public interest was represented. As a result, the role of government had changed from active participant to facilitator and regulator. That had been the experience of privatization in, for example, the United Kingdom of Great Britain and Northern Ireland, where public monopolies had been replaced by a private sector controlled by regulatory authorities.

Environment

28. The development and operation of infrastructure facilities could have a major impact on the environment. There was a spectrum of policies which could be adopted in an attempt to mitigate those effects, ranging from unconstrained freedom to exploit the environment to a total ban on the offending activity. In the face of the evidence, both ends of the spectrum were untenable. The policy issue for consideration was the means of reducing to acceptable levels the adverse environmental impact of infrastructure development.

Equity and efficiency

29. The practice of using the infrastructure subsectors as instruments of general socio-economic policy had confused the questions of efficiency and equity. A minimum requirement of any management information system established within an infrastructure subsector was that the cost of meeting such obligations be identified clearly.

30. If it was decided to introduce pricing reforms and to improve productivity, careful consideration needed to be given at the policy formulation stage to the impact on the members of society directly affected by such reforms.

Poverty alleviation

31. The structural changes associated with economic development placed considerable pressure on specific groups within the community and the impact tended to vary widely from region to region. In the long term, human resources development was a key to redressing many of those inequalities. In the short term, however, policies needed to be adopted to mitigate the impact of the changes and facilitate sustainable economic development. In that respect, the development of infrastructure had a role to play in, for example, increasing the contribution of women to sustainable economic development, reducing farm-to-market transport costs, providing the basic facilities required to reduce the regional concentration of industrial development, and providing easier access to education and employment opportunities.

Least developed, land-locked and island developing countries and the disadvantaged economies in transition

32. The major issue in the infrastructure sector facing many least developed countries was the serving of the basic human needs of the local population, in particular for the transport of agricultural products. The need to minimize or prevent damage from natural hazards must also be taken into account in strengthening physical infrastructure. Land-locked countries, because of their geographical disadvantage, needed, in association with their transit neighbours, to address the issue of minimizing physical and procedural impediments to the development of the external trade of land-locked countries. For island developing countries, particularly the small islands, the capital and human resource requirements to develop and maintain infrastructure were large in relation to the resources available.

33. To date, expenditure on infrastructure in many least developed, land-locked and island developing countries had been underwritten almost wholly by substantial inflows of ODA. Given the recurrent requirement for such assistance, there was a real danger of donor lethargy. There was, therefore, urgent need for those countries to develop long-term strategies that demonstrated clearly the path the country was following towards sustainable development. In those countries, the major issues were the rehabilitation of infrastructure and the means of attracting foreign investment and ODA, for infrastructure rehabilitation, maintenance and development.

Human resources development

34. The key role of human resources development was clear from the above outline of the main issues associated with infrastructure development: improved administration, operating efficiency, maintenance or coping with the introduction of private sector participation. In that respect, clear policies needed to be developed to ensure that the full potential of human resources was realized.

III. PROBLEMS AND PROPOSALS FOR ACTION

35. The approach taken has been to set down a series of policy initiatives and actions which together form a framework that will increase the level of efficiency of the infrastructure sector, raise the level of confidence in the development process and thereby create an environment to attract the private sector to invest. The plan attempts to set forth a balanced approach focused on reducing waste and increasing the capacity of the existing infrastructure, with the objective of restraining the capital demand for new infrastructure. While it is recognized that this will not be an easy path for Governments to follow, it is fundamental to increased efficiency and economic growth.

36. While the majority of the recommendations apply to all countries of the region, it is recognized that there will be exceptions. It will be the responsibility of each country to develop its own strategy for implementation of the national actions depending on perceived priorities and the availability of resources. In addition, however, there is an important, integral role for subregional and regional organizations in supporting initiatives and facilitating implementation. To assist Governments in implementing this approach, proposals for action have been suggested to put in place the fundamental requirements for partnership between government, management, labour, the private sector, donors and international organizations in the development of the infrastructure sector. Although not comprehensive, the proposals represent priority activities which together will significantly enhance the performance of the infrastructure sector.

37. To provide a logical framework for the actions proposed at the national level and the supporting actions at the regional level, they have been grouped under eight theme areas. The main headings are listed below:

1. Infrastructure planning and policy;
2. Administration and management;
3. Private sector participation;
4. Logistics and facilitation;
5. Environment and safety;
6. Human resources development capabilities;

7. Poverty alleviation, rural areas and disadvantaged population groups;
8. Infrastructure needs of the least developed, land-locked, and island developing countries and the disadvantaged economies in transition.

38. Each of the national and regional actions proposed within the plan will encompass a number of modalities. They have not been fully described under each proposal but instead elaborated in some detail in chapter IV. In addition, given the potential importance of private sector participation as an approach to improving the provision of infrastructural capacity and efficiency of operation that cuts across each of the areas covered below, it is dealt with as a separate entity.

1. Infrastructure planning and policy

39. The magnitude of the infrastructure development task, coupled with various institutional and policy considerations, dictates that a substantial proportion of infrastructure financing will continue to be derived from the public sector, at least in the medium term. However, available public sector resources are inadequate and the level of allocations made to the sector reveals no discernible pattern as regards optimum share or level. An examination of resource mobilization in countries of the region indicates that there is considerable room for increasing public sector revenue. Further, prudent deregulation and liberalization of policy in the infrastructure sector can result in gains through increased levels of competition.

40. It is evident that the products and services generated by the available and already overstretched infrastructure are being consumed inefficiently or even wasted. It is the role of Governments to implement creative approaches to enlighten the user community and encourage it to make decisions which will, directly or indirectly, have a beneficial impact on the consumption of available and future output. It is recognized that the pricing of traditional public sector services is undertaken in a complex political, social and economic environment which demands the application of specific adjustments to meet national demands. However, the original reasons for the application of adjustments are, in many cases, no longer valid. In many agencies, the absence of adequate cost information has resulted in the application of subsidies, or in monopoly situations, excessive profit-making. Governments are slowly taking issues of pricing out of the political arena; however, for the majority of public sector agencies, operating subsidies and cross-subsidization still prevail. Decisions in this area, taken from a position of awareness, can lead to improved consumption patterns; nevertheless, the resulting distortion in the market can and often does lead to inappropriate decision-making by the user community.

41. National planning agencies should be strengthened, more effective modalities institutionalized and tools provided which will establish clear and quantified guidance to assist in prioritizing projects and quantifying the cost of politicizing investment decisions. For the majority of disadvantaged countries there will remain a shortfall in funding for increased infrastructure capacity for at least the next few years. It is therefore vital that investments are made in the most deserving projects. While it is recognized that politics will always be a factor in the investment decision-making process, every effort must be made to demonstrate clearly benefit and cost flows through the project cycle in the hope that, presented with adequate information, decision makers will make the right choice and donors will be more confident that funds are being used judiciously.

1.1 *Proposals for action at the country level*

1.1.1 In some cases, the idea of having to pay a higher price for an infrastructure service that may already be overstretched and inefficient may not be acceptable to the consumer. In such cases, proposals for revision in their prices may have to be accompanied by distinct improvement in the quality and efficiency of the service. This would, in turn, require infusion of additional capital for improvement or modernization. In this regard, innovative options and approaches for marketing improvements in service quality and the introduction of a "user pays" principle need to be developed and adopted.

1.1.2 Longer-term strategic, perhaps rolling, investment plans which can provide a more effective framework for the prioritization of project implementation and investment planning should be developed.

1.1.3 As the basis for effective prioritization and timing of investments, comprehensive information and data, in a consistent form, should be made available on the costs and benefits of all competing projects. This will provide the basis for projects which can be identified as being funded preferably by the public and private sectors, depending on projected economic, social and financial returns.

1.1.4 Arrangements should be institutionalized which will create "transparency" in the investment decision-making process with the aim of minimizing irregularities and abnormalities. Mechanisms may include providing added strength to national planning agencies to assist them in minimizing political interference in the planning process and public debate of investment plans to minimize the potential for investment leakage.

- 1.1.5 Computer tools should be used to support the planning process. Such tools can assist in the financial and economic evaluation of benefits by providing a clear, comprehensive and logical progression from projection through costs to benefits and have the advantage of enabling project data to be conveniently updated as situations change. They will also facilitate the management and control of consultants by making assumptions more transparent and options more easily evaluated.
- 1.1.6 Labour should be involved as a full partner with government and management in the planning process. Given an equitable position, with appropriate safeguards and benefits, labour can play a vital role in promoting the development of infrastructure.
- 1.1.7 Governments should review the means by which domestic resources are mobilized and, where appropriate, implement measures aimed at increasing such mobilization. In the area of fiscal policy, instruments can be better designed, innovations introduced and measures taken to reduce tax evasion. In the financial markets, there is scope for introducing or expanding the role of financial institutions and introducing new financial instruments.
- 1.1.8 Governments should review carefully the level of funds allocated to the infrastructure sectors, including the mechanism by which the funds are allocated, to ensure that at least minimum investment resources are available to cover operation and maintenance costs.
- 1.1.9 Within each of the sectors using significant infrastructural facilities the costs, both fixed and variable, of providing services and outputs to the user community should be identified and quantified.
- 1.1.10 Governments should devise financial and economic guidelines for the infrastructure subsectors. Such guidelines would incorporate a general principle that prices reflect the costs of providing the subsector's services and facilities. Governments should review the application of subsidies and price-setting tools to encourage efficient usage of limited outputs and resources. These provide the clearest of signals to users, large and small, of the value of the output consumed and assist them in making decisions which will conform closely to the well-being of the country. Where, for social or other reasons, this is deemed not to be possible, the relevant costs and consumers should be clearly identified.
- 1.1.11 Public awareness campaigns and marketing can be important vehicles for the Government in creating an informed community which will be more prepared to adjust consumption patterns in line with resource availability. These can be employed beneficially at all times and not just at times of crisis, such as water conservation measures in periods of drought (when they can be seen to be effective), to reduce wasteful consumption and even increase reserves. As a final resort, Governments may employ legislation, regulation or rationing to reduce consumption; however, with such firm action, which may be difficult to reverse and which can create shadow markets, there will always be a danger that the development process will be stifled.
- 1.1.12 Labour, government and management should together identify the real employment requirements of existing and planned infrastructure. Action should be taken to provide the opportunity for labour and management staff to move to alternative, and sometimes non-traditional, employment through mechanisms such as skill training for alternative employment, two or more years' leave of absence with the security of guaranteed re-employment if necessary, or even the provision of grants for the establishment of small-scale enterprises.
- 1.1.13 As the infrastructure sector becomes more efficient, effective social welfare schemes should be set in place which will respond to the needs of the less fortunate, who may not have employment opportunities or access to state agency schooling and hospitals.
- 1.2 *Proposals for supporting action at the regional level*
 - 1.2.1 Guidelines and technical assistance will be provided to assist countries in developing national strategies for the implementation of the country-level actions contained in this plan.
 - 1.2.2 Studies, research, computer models on major intraregional and interregional flows (transport, communications, power supply) and their development will be undertaken to assist the countries in the identification of main traffic patterns at regional and subregional levels. Assistance in the development and strengthening of national capabilities will be provided through the identification and quantification of capacity requirements of potential physical linkages as well as minimum standards and requirements.
 - 1.2.3 Regional studies on the economic and social impact of infrastructure deficiencies will be undertaken focusing on the special needs of

particular areas, including those of urban communities. They will include coverage of congestion, limited access, and shortages.

- 1.2.4 Assistance in the identification, planning and finance of regionally significant infrastructure projects which transcend national boundaries and where a perception of potential benefits and perspectives for the sharing of facilities, aligning routes and equitable cooperative arrangements between countries or subregions can be useful. Many examples exist in the railway (Trans-Asian Railway), road (Asian Highway), power (electricity grid connections and gas pipeline networks), communications, water and port sectors where such an approach could also strengthen the opportunities for growth triangles.
- 1.2.5 Guidelines, technical assistance and training of trainers for integrated infrastructure planning will be provided. Special attention will be given to the integration of traditional technologies into modern infrastructure systems. A review of the regional experience of land-use planning will also be undertaken to ensure that a relevant and practical background is provided to training and to create the opportunity for technical cooperation among developing countries (TCDC).
- 1.2.6 Guidelines and specifications will be developed for the creation of computerized databases at the national level on existing infrastructure, including the form, content and modalities for their updating. The introduction of operational databases in one or more developing countries will be undertaken as demonstration projects, and as the focus for regional and subregional training activities. A regional database with priority attention to the infrastructure of international importance will be created as an information resource.
- 1.2.7 Investment appraisal and planning tools will be developed for national usage. They will embody clear and quantified guidance, including socio-economic costs/benefits and project income generation potential, to assist in prioritizing and exposing the cost of taking an unfavourable investment decision. Training programmes at national, subregional and regional levels on computer-based financial/economic planning models will be delivered.
- 1.2.8 Regional research and studies leading to the development of guidelines for the preparation of long-term infrastructure modernization programmes will be undertaken to review the application of appropriate technologies and as the basis for training and sharing of knowledge.

- 1.2.9 At the regional level an analysis of the potential approaches that can be employed in raising domestic and foreign capital will provide national policy makers with a clearer picture of the benefits of the various alternatives and assist in establishing negotiating positions. Particular attention will be given to accessing domestic and regional finances.

- 1.2.10 Regional initiatives can assist in providing solid examples of the structure, formulae and approaches which could be applied in arriving at appropriate prices. Comparative studies of regional experience and analysis of the benefits/implications at the economic, financial and social levels can lead to the development of guidelines which would provide a focus for national debate and policy formulation leading to improved consumption patterns. The guidelines would also form the basis for technical assistance and training on the application of appropriate methodologies which would encompass the quantification of economic benefits, internal and external costs, capacity and potential social impacts of price changes.

- 1.2.11 Research into the implications of deregulation, liberalization and other policy alternatives will be undertaken to assist countries in the formulation of appropriate national policy.

2. Administration and management

42. The creation of an effective decision-making framework for infrastructure development and operation can increase output efficiency in the infrastructure sector significantly. The legislation and administration of any country are slow to change. This is particularly true of the developing, and particularly the least developed countries of the region; yet the rapid pace of change in technology, economic climate and especially usage patterns requires a responsive environment. In addition, infrastructure *per se* transcends traditional ministerial boundaries. Bureaucracy, lack of delegation, unclear objectives and conflicting policies all have an adverse impact on the efficiency with which the infrastructure sector can perform. In reforming national legislation and administration, clear economic and financial objectives should be articulated to provide unambiguous counsel on the changing role and expected performance of agencies. Such reforms should be designed to allow the infrastructure subsectors to be managed as businesses, not as bureaucracies. While there are some areas in which central Government is required to retain a conspicuous controlling role, for example, coordination, policy planning, strategic considerations, environmental regulation and social well-being, there is an overwhelmingly strong case for the delegation of

authority, decision-making and responsibility to lower levels which are involved more intimately in the operation of infrastructure assets.

43. A wide range of examples exist of infrastructure projects which are now in operation at "maximum output" yet which fail to achieve a production capacity that is even close to the expectations in the original design. The reasons for this include outdated management systems, inefficient operational practices and inadequate maintenance. Within the infrastructure sector, Governments and lending agencies tend to give priority to capital development. Thus, the already inadequate budgets for investment in existing facilities are spread ever more thinly over an increasingly wider asset base.

2.1 *Proposals for action at the country level*

2.1.1 Legislation should be updated to foster economic, social and technological progress. Within the process current and projected national developments, as well as relevant international conventions, should be taken into account.

2.1.2 Central government administrative controls and procedures should be reviewed and streamlined. Attention should be given to the interaction among different ministries, and increased coordination of infrastructure falling under the responsibility of different ministries which may complement each other or compete for users, but which certainly compete for resources. Improved land-use planning will be an important component of this activity. Particularly important will be the identification of duplication of responsibilities. The delegation of authority to competent agencies and organizations should be encouraged within a coordinated plan of action.

2.1.3 Governments should guide and assist the various agencies and organizations involved in infrastructure to evaluate their internal administrative practices and procedures with a view to identifying areas in which more commercial management practices could be associated with appropriate levels of autonomy.

2.1.4 Consideration should be given to the metamorphosis of government agencies, or elements thereof, through a process of corporatization (by the transfer of assets and authority to a pseudo-private organization under public control) with internal responsibilities that mirror the private sector in terms of clearly defined financial and operational objectives along with decision-making authority, thereby removing some of

the administrative inefficiency. Corporatization can be used as a stepping-stone to privatization.

2.1.5 Modern, performance-oriented management procedures should be instituted and supported by appropriate management reporting systems. They should include fully integrated quantified operational and financial objectives agreed between management and the controlling body. Full consideration should be given to computerization of the organization, particularly information systems, to ensure timely reporting to support management in decision-making. Where management skills are weak or where transfer of technology is seen to be particularly beneficial, a management contract may provide the opportunity for increased efficiency.

2.1.6 Operational practices should be reviewed. Particular attention should be given to areas where significant investment has been made, or is contemplated, in new technology and mechanization but where old chains of command, practices and manning levels remain and anticipated productivity gains have not materialized.

2.1.7 Better planned, managed and financed maintenance will enhance the output of the infrastructure sector and increase the economic life of projects, reducing the costs of both product and new infrastructure demand. Adequate budgets should be provided for maintenance tasks and, where necessary, special hard currency funds should be released expeditiously. In appropriate circumstances, funds should be set aside for the modernization of existing infrastructure and facilities as a priority over new construction.

2.2 *Proposals for supporting action at the regional level*

2.2.1 Regional initiatives to support Governments in the process of updating legislation, administrative practices and procedures will provide the catalyst to trigger national action. Comparative studies on the scope and content of enabling legislation, with particular reference to the streamlining of procedures, delegation of authority and the legal status of the private sector, will be undertaken. These studies, which may transcend regional boundaries, and the follow-up expert group meetings will provide a framework for the drafting of legislative guidelines at the country level. The studies could also provide guidance for national reviews of administrative practices/procedures and form the core of

training programmes and advisory services designed to encourage the modernization of legislation and administration.

- 2.2.2 Research and analysis will be undertaken to develop model quantified objectives which, along with examples of successful transition of agencies from operating to regulatory bodies, will assist Governments in formulating appropriate national schemes and provide the basis for the corporate planning processes of the individual agencies. Implementation assistance through training, advisory services and exchanges of experience will also demonstrate, in a practical manner, the scope and form the objectives would take in practice. The institutionalization of the objectives may be introduced ahead of legislative changes and at a later stage could provide core performance objectives for inclusion in contracts with the private sector.
- 2.2.3 Outdated management systems in public sector enterprises are common to many countries of the region. Improvement of the situation could therefore be achieved by a cost-effective regional solution through the development and implementation of model management systems which would embody modern corporate planning techniques. The models, which could be adjusted to specific national and sector requirements, would form the core training activities, implementation assistance and advisory services. They would include guidance on the application of electronic data-processing technologies to support management decision-making and be the focus of modular computer software development and exchange.
- 2.2.4 Assistance at the regional level, through the sharing of experience on "good operating practices" and the adoption of new technologies, can assist in the formulation of improved organizational arrangements and timely implementation of appropriate operating practices when new equipment is introduced.
- 2.2.5 Regional reinforcement of the importance of maintenance in itself will help to draw attention to the significant financial and human resources that need to be assigned to this area of work. Guidance on the appropriate planning, budgeting and implementation of improved maintenance of infrastructure and facilities can be given through publications, human resources activities and the distribution of specially developed software designed to assist the management process. Specific areas of coverage would include, but not be limited to, asset management, life-cycle planning, stock control and job costing techniques.

3. Private sector participation

44. The potential for increasing the role of the private sector in infrastructure financing, management, operations and risk-sharing should be explored so that it can make a greater contribution to national progress within the overall context of infrastructure development. The private sector is seen in many countries as the engine which has driven economic growth. It has access to financial resources, technical expertise and, sometimes, markets which the public sector alone may find difficult to exploit. It is claimed that under the right circumstances the private sector also exhibits higher levels of productivity and cost efficiency than the public sector. In this respect, the introduction of competition through increased participation of the private sector can significantly improve the efficiency of infrastructure delivery. With privatization of the existing infrastructure, Governments may also be able to raise capital, for priority projects, through the sale of specific infrastructure businesses as ongoing concerns.

3.1 *Proposals for action at the country level*

- 3.1.1 Governments should identify the areas in which the private sector can participate beneficially in infrastructure investment, management, operations and maintenance. Considerations will be founded on delineation of the particular problems that private sector participation is expected to overcome and the issues that will be raised if the policy is implemented. Factors such as strategic national interests, the need for and level of retained control, labour reaction, projected financial returns on projects, the sharing of risks and the investment burden will all need to be taken into account.
- 3.1.2 Governments should create a climate that will attract the private sector to participate in infrastructure investment. This will involve, but not be restricted to, providing a legislative framework that safeguards national interests while supporting private ownership and providing the opportunity for flexible and responsive decision-making. Appropriate mechanisms should be enabled to allow discretionary redeployment of accrued profits and benefits by the private sector.
- 3.1.3 Governments and agencies should provide comprehensive details of projects for potential private sector financing, including projected returns on investment, both financial and economic. The availability of such information provides the basis for constructive dialogue between the public and the private sector.

3.1.4 To create additional confidence, Governments should take action to ensure an equitable sharing of risk between the public and private sector. Within a project cycle, a process of pre-qualification of a reasonable number of competent firms should be adopted, thus minimizing waste and demonstrating government commitment. A clear picture of the Government's long-term perception of the position of the private sector within its national strategy should be clearly elaborated

3.1.5 Governments should consider alternative forms of private sector participation which, under given circumstances and retained levels of control, will provide alternative benefits, for example, in terms of technology transfer (management contract and long-term leasing), efficiency and reduced cost (corporatization and privatization), lower investment and government involvement (BOT), recovery of sunk investments (privatization and the sale of assets) and disinvestment.

3.2 *Proposals for supporting action at the regional level*

3.2.1 Within the region, experience of private sector participation has taken many forms, from ownership and operation of assets through to subcontracting services. Each of the alternatives can have advantages and disadvantages under different political, economic, financial, social and project circumstances; however, little comparative analysis has been undertaken and countries are, therefore, not fully informed of the options available to them. Regional action in this respect will provide a checklist of issues and problems which may be resolved by involving the private sector. This will assist national policy makers and provide indications of the potential benefits that the alternative approaches may offer under specific conditions.

3.2.2 Surveys and studies of public and private sector perceptions of project requirements will be undertaken to determine and catalogue criteria for success. Taking these factors into account, regional guidance could be provided on the formulation of projects for private sector involvement, including the identification of key elements to be incorporated in project offerings, possible negotiating positions and methodologies to make projects more attractive to potential investors. This approach would provide the opportunity for a measure of uniformity between projects, thereby

expediting their evaluation both by the country and the private sector through comparisons with other projects. Such uniformity could also lay the groundwork for increased regional cooperation in seeking financing for projects.

3.2.3 Developing materials for distribution and conducting awareness-creation seminars on the ways and means of attracting private sector involvement in infrastructure development will be undertaken at the regional and subregional levels to facilitate private sector involvement and reinforce national initiatives.

3.2.4 Model formats for the presentation of information on project proposals will be developed and distributed. Special reference to the required coverage and level of information detail for projects being considered for potential private sector funding will be included.

3.2.5 Model agreements will be developed which can be adopted as the basis for contracts between the public and private sectors. Core inputs for this process will be existing documents which have been applied in the region and on which experience has already been obtained.

4. Logistics and facilitation

45. The provision of adequate transport and telecommunications facilities is one of the necessary conditions for supporting a country's trade. Of equal importance, however, is the requirement that passengers, goods and transport vehicles can utilize the facilities efficiently in order to meet the demands of price-conscious and time-sensitive markets. A large number of international conventions have been designed to facilitate the international movement of passengers, goods and vehicles; however, many countries have not acceded to these conventions or harmonized national legislation, bilateral or subregional agreements with them. Similarly, many countries have their own transport and trade documentation which is unduly complex and does not match documentation in other countries. Simplification and standardization of these documents to conform with the standard aligned systems would make a significant contribution to the facilitation of international trade and traffic.

46. The introduction of the freight container has been a technological advance which can increase the efficiency of the transport sector; however, in many countries its full intermodal potential has not been realized in the logistics of international production and distribution.

4.1 Proposals for action at the country level

- 4.1.1 Logistics studies should be undertaken to identify and quantify the impact of bottlenecks in terms of time and cost. Infrastructural, institutional, documentary and operational factors should be encompassed to assist in prioritizing actions which will have the greatest impact within short- and longer-term strategies.
- 4.1.2 Implementation of relevant international/regional transport and trade conventions and instruments, which will facilitate trade and the international transport of passengers, goods and vehicles, should be integrated within national legislation and bilateral or subregional agreements. As an integral element of this process, countries should participate more actively in the deliberations of international and regional bodies with responsibilities for the creation and maintenance of international conventions.
- 4.1.3 Countries should consider the standardization, simplification and harmonization of transport and trade documentation with the standard aligned system of the United Nations.
- 4.1.4 Active support should be given to the strengthening of professional freight forwarders and multimodal transport operators through the establishment of standards, qualifications and codes of practice; promotion and strengthening of national associations; human resources development; and the establishment of multimodal transport committees.
- 4.1.5 Countries should also consider the introduction or strengthening of the computerization of trade, transport, communications and postal services as well as customs clearance procedures and the application of electronic data interchange (EDI) networks to facilitate the logistics process.

4.2 Proposals for supporting action at the regional level

- 4.2.1 Logistics and corridor studies will be undertaken aimed at intensifying transport and trade flows through the identification of main bottlenecks to the smooth flow of passengers, goods and vehicles and assisting in the implementation of solutions which will mitigate their effect.
- 4.2.2 Assistance will be provided to individual and groups of countries wishing to accede to international conventions and to adopt facilitation measures. Simplified explanations

of relevant international conventions and their implications will be drafted to include legal precedents. Seminars on the implications of accession to various international conventions will be organized and expert group meetings convened to consider problems, bottlenecks and facilitation measures in the field of trade and transport. Advisory services will be provided to overcome problems.

- 4.2.3 Guidelines at the policy and operational level for the adoption of multimodal transport, freight forwarding and electronic data interchange systems will be developed. Sharing of experience on their harmonization and implementation will be promoted through regional and subregional forums convened to create awareness and review the latest developments. Training of trainers programmes will also be developed and delivered.

5. Environment and safety

47. Infrastructure development can have a massive and irreversibly detrimental impact on the environment. It is the responsibility of Governments and their agencies to ensure that, irrespective of the scale of infrastructure projects, the impact on the environment is minimized. With growing competition and the intensive search for least-cost production, appropriate environmental guidelines and standards must be established, monitored and enforced. These standards should be applied conscientiously in all project phases, including design, construction, operation, and in relation to the residual impact of infrastructure developments. More effective modalities need to be put in place for the evaluation of the growing number of projects whose impact transcends national boundaries.

48. Safety standards in relation to all aspects of the infrastructure sector development and operation are often poorly defined and enforced. The transport of hazardous cargoes often poses a greater threat to the community and environment than when they are stored at their eventual industrial destination, even though the quantities may be smaller. The reason is that the problems are magnified as a whole range of hazardous goods, sometimes in one shipment, have to transit corridors which often pass through population centres. Accidents involving hazardous cargoes occur all too frequently, yet many of the countries do not have contingency plans setting out responsibilities, key personnel or procedures to be followed.

5.1 Proposals for action at the country level

- 5.1.1 Environmental impact assessment should be made mandatory for all projects in the infrastructure sector. Governments should

review current environmental guidelines and standards to ensure that they correspond to international standards.

- 5.1.2 Adequate maintenance and improved management of existing infrastructure, which has already had an impact on the environment, should be given high priority as a means of extending economic life and minimizing the need for new building.
- 5.1.3 The impact of existing infrastructure on the environment should be evaluated and, where appropriate, operating systems upgraded through the adoption of more environmentally friendly technologies.
- 5.1.4 Safety standards, regulations and their enforcement should be kept under constant review and upgraded where necessary to conform to accepted standards.
- 5.1.5 The procedures and documentation for moving hazardous goods on transport infrastructure links and storing these goods at nodes should be reviewed and the necessary changes implemented. Appropriate contingency plans which can effectively limit the impact of accidents involving hazardous goods should be set in place.

5.2 *Proposals for supporting action at the regional level*

- 5.2.1 Countries will be assisted in the implementation of the provisions of Agenda 21 which relate to infrastructure and as prioritized within national programmes.
- 5.2.2 Guidelines for the implementation of environmental impact assessments will be updated or developed and national capabilities upgraded through assistance in their application which can provide opportunities for on-the-job training initiatives.
- 5.2.3 Cross-country studies of the impact of existing infrastructure on the environment, including the perceptions of the communities affected and compliance with technical standards, will be undertaken. Sharing of experience in the reduction of pollution from infrastructure facilities, including the adoption of more environmentally friendly technologies, tuning of equipment, alternate fuel usage and emission control technologies, will be promoted through the exchange of information and expertise.
- 5.2.4 Model contingency response plans will be developed as the basis for national formulations which will take into account local circumstances while ensuring consistency

in their coverage and maintenance of minimum safety standards. Subregional agreements on collaboration in cases of significant disasters through the sharing of resources will be facilitated.

6. Human resources development capabilities

49. Effective human resources development strategies and programmes to upgrade skills should be fully integrated into the infrastructure development process. The planning, design, operation and maintenance of infrastructure facilities all rely equally on the appropriate skills being available. Investment in human resources development is recognized as one of the most fundamental and cost-effective factors contributing to economic growth. Additional resources should be focused on improving educational and training opportunities which will enhance capability in the infrastructure sector and can provide the opportunity for mobility of labour, thereby harnessing the strength of the often abundant human resources. In the short term, opportunities to explore alternative sources of expertise to strengthen capability and create the opportunity for technology transfer may be employed.

50. Commission resolution 50/7 of 13 April 1994 on the update of the Jakarta Plan of Action on Human Resources Development in the ESCAP Region contains a comprehensive approach to human resources development. The following proposals reiterate a number of items of specific relevance to infrastructure.

6.1 *Proposals for action at the country level*

- 6.1.1 Guidelines for the integration of human resources development strategies into infrastructure development and their financing should be developed and implemented. Such guidelines should not just focus on the allocation of capital budget, but should encompass the continuing need for quality training and retraining to ensure that the needed skills are in place.
- 6.1.2 A human resources development department should be established in each of the infrastructure subsectors with direct reporting to the highest authority in order better to develop and utilize the organization's personnel. The department should deal with human resources planning, career development and organizational development.
- 6.1.3 The capability and capacity of educational institutions should be enhanced and reoriented to match the requirements in the infrastructure sector more effectively. Qualified instructors should be recruited, adequate facilities and equipment provided and institutes encouraged to develop curricula and deliver relevant

- courses, including those designed to prepare personnel for self-employment.
- 6.2 *Proposals for supporting action at the regional level*
- 6.2.1 Implementation assistance will be provided to countries in achieving the objectives of the Jakarta Plan of Action and as prioritized within their own national programmes.
- 6.2.2 Considerable experience already exists in the region of the needed integration of human resources development policies and strategies within the development process to support rapid economic growth. Comparative studies of human resources development policies applied in countries at different levels of development will be undertaken to provide the basis for the development of guidelines for adjustment and adoption at the national level. Results would include indicators as to levels of investment and evaluation methodologies.
- 6.2.3 Review of policies, activities and experiences in the changing employment environment associated with improved efficiency of the infrastructure sector will be undertaken as the basis for exchanges of experience. Modalities to upgrade skills within the sector and to increase the mobility of labour will be investigated.
7. Poverty alleviation, rural areas and disadvantaged population groups
- 5i. The integration of effective policies with infrastructure development in the transport, communications, power and water sectors will provide the opportunity for improved physical access while creating a wealthier community. The development of infrastructure can be directly equated with economic development and, potentially, job creation. In many countries the rural population is a significant part of the community, but has only restricted access to infrastructure services, limiting the role rural people can play in economic development and effectively precluding them from receiving basic services. The infrastructure sector has contributed successfully to a number of employment generation programmes. The extension of such programmes offers considerable potential for the raising of living standards of economically and socially disadvantaged groups.
- 7.1 *Proposals for action at the country level*
- 7.1.1 Governments should review domestic spatial planning policies and infrastructure sector employment potential to create the opportunity for reducing the concentration of poverty.
- 7.1.2 Special attention should be given to the development of decentralized infrastructure specially to the remote and less developed areas to enhance the opportunity of the rural population to contribute to economic growth.
- 7.1.3 Policies should be developed to encourage agencies and organizations to give serious consideration to the involvement of women and disadvantaged population groups and thereby explore alternative sources of expertise and broaden the base of the workforce.
- 7.2 *Proposals for supporting action at the regional level*
- 7.2.1 Methodologies for studies on the impact of infrastructure investment in the transport, communications, power and water supply sectors on the rural and urban poor will be developed and assistance in their implementation provided. Regional exchanges of ideas and experience will be supported.
- 7.2.2 Guidelines and technical assistance will be provided to institutionalize impact assessment for infrastructure investment on the poor, in particular to prevent the displacement of poor communities and where necessary to mitigate its effects through relocation and equitable compensation.
- 7.2.3 Research will be undertaken into the special problems of financing, administration and coordination of rural infrastructure development, operation and maintenance as the basis for the formulation of guidelines and the exchange of experience.
- 7.2.4 Technical assistance will be provided to promote appropriate labour-intensive infrastructure construction and maintenance technologies which generate employment opportunities while supporting project objectives.
- 7.2.5 Research into low-cost and other technologies that provide increased opportunities for community participation in infrastructure development and operation will be undertaken. Special consideration will be given to the services and requirements of the poor communities.
- 7.2.6 Research into the participation of women in the infrastructure subsectors will be undertaken and assistance provided to member countries in formulating appropriate policies and strategies for promoting the participation of women in these subsectors.

8. Infrastructure needs of the least developed, land-locked, and island developing countries and the disadvantaged economies in transition

52. In the least developed, land-locked, and island developing countries and the disadvantaged economies in transition, special and significant problems exist which intensify the difficulties in providing adequate and efficient infrastructure. Specific areas in the implementation of national and regional transport sector plans include: developing ports, roads, rural tracks and railways; training the required manpower and setting up indigenous training institutions; creating internal transport facilities, particularly to link remote areas; expanding and improving transit-transport and port facilities in transit countries to facilitate transport to and from land-locked countries; giving appropriate attention to the development of coastal shipping services and of river and lake services; developing, where necessary, joint shipping companies or merchant fleets; overcoming congestion of ports; taking the necessary measures to ensure the management and maintenance of transport equipment.⁴ Owing to a lack of investor confidence and limited availability of domestic resources, many of these countries have to rely on ODA to underwrite investment in infrastructure. However, ODA is largely allocated on an annual basis, leading to annual fluctuations; sometimes the major focus is on capital investment, along with tied aid, rather than maintenance. In addition, some donors have started to question the effectiveness of ODA in countries where it would appear that it is having a limited impact on economic progress. At the very basic level, there is a desperate need for spare parts, maintenance equipment and materials: this is only partly due to currency exchange regulations.

8.1 *Proposals for action at the country level*

8.1.1 The least developed, land-locked, and island developing countries and the disadvantaged economies in transition can increase the confidence of donors by ensuring that investment resources, including ODA, are devoted to projects that contribute directly to increasing the pace of economic development. Priority allocation of government resources to development of the infrastructure sector and the implementation of administrative and management improvements, as set out in previous recommendations, should be of high priority in this process and in attracting higher levels of foreign investment.

⁴ See para. 347 above. See the Programme of Action for the Least Developed Countries for the 1990s, *Report of the Second United Nations Conference on the Least Developed Countries, Paris, 3-14 September 1990* (A/CONF.147/18), para. 111.

8.1.2 Long-term strategic plans leading to sustainable economic development, with details of related national initiatives aimed at increasing efficiency, should be developed to provide a framework for assistance.

8.1.3 Immediate attention should be given to the maintenance and rehabilitation of existing infrastructure so that it can perform the basic functions for which it was originally designed. Where necessary, special arrangements should be put in place for the expeditious release of the hard currency funds required for spare parts and materials.

8.1.4 Policies designed to create "development concentration zones" should be considered with the objective of attracting investment. Industrial development zones, industrial estates and export processing zones have already been commissioned successfully in the region to provide enhanced levels of infrastructure and services to appropriate investors. This approach also allows Governments to be selective in focusing investment and job-creation opportunities to benefit specific communities.

8.1.5 Approaches to provide improved access and transit arrangements, especially for land-locked countries, should be integrated into national infrastructure planning. Particular attention should be given to the facilities required at border-crossings.

8.1.6 Island least developed countries should initiate programmes for the development of their internal and external transport links in order to improve their access to world markets.

8.2 *Proposals for supporting action at the regional level*

8.2.1 The majority of the supporting regional actions enumerated above are directly relevant to the needs of the least developed, land-locked, and island developing countries and the disadvantaged economies in transition. Within the regional element of the action programme a special concentration of available resources will be devoted to assisting the development of these economies.

8.2.2 The international community, particularly developed countries, should provide technical assistance to the least developed countries to enable them to develop and improve their telecommunications systems, including the use of satellites and other technologies, where appropriate. Least developed countries should devise more effective pricing policies, which reflect economic and social needs.

- 8.2.3 Donor countries and agencies need to provide priority attention to the special needs of these groups of countries. Efforts should be made to provide opportunities to share regional experiences of successful infrastructure development. Donors are requested to support and encourage the implementation of joint transport and communications projects between two or more least developed countries, particularly when envisaged in the framework of subregional and regional economic integration.

IV. MODALITIES

53. The national and supporting regional actions elaborated above provide an unambiguous picture of the specific responses to be undertaken under the action plan. Each of the actions may encompass one or more modalities which will facilitate their achievement. Governments and regional organizations are encouraged to be imaginative in deploying approaches which will capitalize on national and regional resources.

54. Actions at the national level will have a direct impact on the infrastructure sector, resulting in major, measurable improvements in efficiency. Effective implementation, however, will require a fundamental review of regulations, procedures and methodologies by which infrastructure projects are planned, constructed and operated. It can, therefore, be anticipated that the consequences of these activities will be far-reaching in both economic and social terms. The modalities proposed for consideration at the national level are designed to accommodate these issues.

55. Action at the country level is the responsibility of Governments. However, it can be facilitated by action at the regional level. In addition, regional action can be cost-effective in assisting countries of the region in achieving their development objectives in terms of satisfactory levels of infrastructure development and performance. Action in support of national initiatives may include the provision of technical assistance, the development, at the regional level, of models and tools which may be applied in a number of countries at the national or project level, and the production and dissemination of training materials; regional research and development, including comparative studies which could form the basis of exchanges of experience and know-how; and coordination, cooperation and facilitation of development activities which will become more important as the impact of infrastructure projects increasingly transcends national boundaries.

1. National modalities

56. For the implementation of the national actions proposed within the plan, countries could consider a number of modalities, some of which are listed below.

Policy coordination and rationalization committees. At the highest level of policy development there is a need for collaboration and cooperation in formulating and coordinating policies. The key role of the policy coordination and rationalization committee will be to harmonize strategies and propose appropriate consolidation of resources under responsible ministries and agencies to reach national objectives efficiently.

Internal reviews of efficiency. In many respects, the organizations and agencies providing infrastructure facilities and services are in the best position to identify the factors affecting their own efficiency of delivery. Consequently, internal reviews of efficiency which include specific recommendations concerning the means of addressing inefficiencies can be effective. In some respects, however, these organizations may be too close to the problem or lack the breadth of experience in identifying the causes of inefficiencies. In such cases, outside help could be solicited to assist in such internal reviews.

Sectoral reviews. Efficiency and inefficiency are phenomena which are not necessarily country-specific. For example, a country may have a railway sector which by international standards is considered to be efficient, but a water supply sector which is considered to be relatively inefficient. Consequently, sectoral reviews designed to identify those factors which have contributed towards a sector being considered efficient can assist in improving general efficiency.

Reducing barriers to entry to the provision of infrastructure facilities and services. As noted in the text above, the introduction of competition through increased participation of the private sector can improve the efficiency of infrastructure delivery. The adoption of policies which reduce or remove barriers to entry of the private sector will facilitate such competition. However, in devising such policies, consideration also needs to be given to any impediments to existing public sector agencies effectively competing with the new entrants.

Corporatization and commercialization of existing organizations. While corporatization and commercialization can be ends in themselves, they can provide the basis of an important modality to increase public sector efficiency in every element of the infrastructure sector. The very process of commercialization infers a fundamental review of current performance and the identification of bottlenecks and impediments which preclude the public sector from performing effectively.

Demonstration projects. Demonstration projects provide a platform for testing legislative, administrative and technological reforms prior to national implementation. Through this approach, which can be aimed at smaller-scale activities, important experience can be gained which will help adjust approaches and avoid serious pitfalls.

Development zones. The creation of regional development zones and industrial estates can provide the opportunity to focus developmental effort. This may include providing improved utilities (transport, power and communications services) within the areas to provide stable and more efficient services. National and foreign investment can also be encouraged in these areas, particularly if they are export-oriented, through special fiscal and licensing concessions, as has been the case in Sri Lanka within export processing zones and Thailand with the creation of the Industrial Estate Authority. This approach lends itself to the innovative application of new regulatory schemes which may be tested prior to national-level implementation.

Public/private sector consultative committees. The private sector involvement in all areas of infrastructure financing, development, usage and the consumption of outputs is becoming increasingly important in all countries of the region. Through the formal establishment of public/private sector consultative committees, Governments will be able to maintain a constructive dialogue with the private sector and thereby create an important information and potential resource flow.

Facilitation committees. The development of infrastructure and the provision of efficient services and outputs often rely on the harmonious interaction between several parties from both the public and the private sector. Difficult issues often arise because of the need for various ministries, sometimes with conflicting short-term objectives, to work together. Similarly, implementation of conventions and instruments to streamline operations, such as multimodal transport, requires the collaboration of various agents. Facilitation committees can provide the opportunity for problems and issues to be resolved at the working level where optimum solutions can be identified. Such an approach can result in major improvements in productivity and cost reductions through non-investment solutions.

Interdisciplinary teams. In each of the countries of the region there is a valuable resource of experts that are recognized for the incisive inputs they make to their specialist fields of interest. Such experts can be found amongst the nation's statesmen, government employees, industry leaders and academic scholars. Each of these leaders is contributing, in his or her own way, to the common benefit of the country and its people. Unfortunately, they are also often working separately from each other and the potential for interaction and synergy is lost. The organization and convening of interdisciplinary teams of leading experts (which could include retired persons) for special, time-limited tasks could contribute significantly to the process of improving the infrastructure sector.

Reviews of service quality. In the process of evolving their existing structures, many public sector organizations and agencies have lost sight of the fact

that one of their primary objectives is to provide a service to consumers. Reorientation of attitudes through, *inter alia*, reviews of service quality can contribute towards increased efficiency in the delivery of infrastructure services.

Infrastructure user groups. Outputs and services from the infrastructure sector are consumed by society as a whole. The forming of infrastructure user groups to provide feedback on specific interests and requirements can provide excellent guidance as to location and optimum design of infrastructure projects. They can also make inputs to the decision-making process as to what services should be provided and how they are packaged to best meet consumer needs. Early consideration of these interests can allow adjustments to be made at minimal cost while benefiting the community as a whole.

2. Regional modalities

57. Specific modalities which can be applied at the regional level in a supportive or even catalytic role in the development process include the following.

Information/data sharing. To provide the basis for regional cooperation, research, information and data should be collected on a regional basis. This can assist in the identification of similar types of projects where information exchanges may be particularly useful, for example, on technology, contract formulation and costs. In addition, details of educational and training opportunities across the region could be disseminated and a regional resource of information on conventions, instruments and other matters established for access by countries of the region.

Comparative studies. Countries of the region are building valuable experience in the implementation of a wide range of initiatives, including public sector reform, implementation of improved management procedures, corporatization, joint ventures, privatization and development of industrial estates. This experience could provide a valuable resource for the region if properly evaluated and, where necessary, transformed into generalized guidelines.

Technical assistance. For all countries, and particularly the disadvantaged among them, there is a need for technical assistance at all levels to support the infrastructure development process. Examples include advice on the drafting of terms of reference, project evaluation, improving management procedures and information systems, maintenance of infrastructure, procurement issues and computerization.

Development of guidelines. Many countries of the region are facing common problems in the development of infrastructure. They therefore lend themselves to a regional approach to their solution through the development of guidelines which can be adjusted to national requirements prior to adoption and

also form the basis for technical assistance in their implementation.

Development and dissemination of models and tools. Purpose-designed models, tools and software to assist Governments and agencies in undertaking their activities more efficiently can be cost-effective if developed at the regional level. Examples could include forecasting models which, taking into account competing and complementary developments across the region, could predict demand and investment requirements; financial and economic planning models designed to assist in the evaluation of investment projects; and management software, for which there is general demand, such as in the area of asset maintenance and control.

Facilitation. Facilitation at border-crossings can provide the opportunity for minimizing delays, costs and demand for infrastructure. With the growth of cross-border transport and trade, the development of freight forwarding and the introduction of multimodal transport, each of which has important international ingredients, regional-level inputs are becoming increasingly important.

Human resources development. Training materials can be developed and delivered through training-of-trainer activities, seminars and workshops, as well as being distributed to national institutions. Networking of training and research institutions, initiated at the regional level, can complement and supplement capability. Action could also be taken to initiate intercountry exchanges of experts to bring practical knowledge and experience of the development process and provide on-the-job training.

Technical cooperation among developing countries. A number of countries of the region are being increasingly recognized as providing successful cases of, for example, financial sector reform or the introduction of BOT. In these and many other areas there is considerable scope for strengthening the mechanisms whereby these experiences can be shared among the developing countries of the region.

Regional and subregional cooperation. There are considerable differences in the stages of economic development that countries of the region have reached, and many countries have adopted different approaches to the provision of infrastructure facilities. Consequently, there is a firm basis for regional and subregional cooperation in the sharing and comparing of experiences in infrastructure development; mutual assistance in human resources development; the development of regional policy and a regulatory environment; and the joint development of infrastructure facilities.

Involvement of subregional organizations. Subregional organizations have an increasingly vital role to play within the infrastructure development context.

They already provide a forum for consultation at the policy and technical levels, including coverage of infrastructure issues. This activity can usefully be extended to enhance cooperation among Governments, both mutually and through regional initiatives that can lead to cross-subregional collaboration.

Meetings of chief executives. Regional meetings should be held, at the chief executive level, in which discussions of topical issues should be initiated to assist in fostering a climate for closer collaboration and problem-solving through the sharing of experience. Examples of issues which would be covered in such meetings include pricing policy, technology developments, human resources development and new initiatives.

Meetings of chief administrators of regulatory bodies. Chief administrators of regulatory bodies play an important role in the development, management, utilization and maintenance of infrastructure in the region. However, there is no regular opportunity for the chief administrators to meet and share ideas and experiences in infrastructure development in the ESCAP region. Consequently, a forum whereby chief administrators or regulatory bodies could share and exchange experiences and ideas could assist in the provision of efficient infrastructure and services.

Inter-agency cooperation. Opportunities for increased collaboration between regional agencies, including ESCAP and ADB, should be enhanced through joint identification and, where appropriate, implementation of studies, projects and activities. The implementation of phase II (1992-1996) of the Transport and Communications Decade for Asia and the Pacific has already demonstrated the potential benefits of closer collaboration in focusing development assistance and minimizing the duplication of activities.

V. IMPLEMENTATION, PRIORITIES, TIME-FRAME AND MONITORING

Implementation

58. Coordination and cooperation will be key factors in the effective implementation of plans and programmes at the national level in overcoming shortfalls in the infrastructure sector. They are also particularly necessary among agencies and organizations, both within and outside the United Nations system, that are active in providing assistance to countries.

59. At the national level, each Government will need to set clear-cut goals and devise national implementation strategies which will lead to the fulfilment of the proposals contained in the action plan. Mobilization of the private sector as a partner in this process will provide the opportunity to identify complementarities in terms of experience, expertise and

resources which will inspire increased levels of collaboration with the parties concerned.

60. At the regional level, all the concerned United Nations agencies and institutions will be able to contribute to the implementation of the action plan. Included in this process will be the United Nations Conference on Trade and Development, United Nations Environment Programme, United Nations Centre for Human Settlements (Habitat), United Nations Development Programme, Economic and Social Commission for Asia and the Pacific, International Labour Organization, International Civil Aviation Organization, International Telecommunication Union, International Maritime Organization, World Bank, United Nations Industrial Development Organization, Asian Development Bank, and the Asia-Pacific Telecommunity. Through the joint effort of these bodies a considerable development effort can be mobilized to support the member countries of the region in enhancing infrastructure capacity.

Priorities

61. The action plan promotes an integrated approach to addressing the issues of infrastructure development. Each of its eight theme areas includes proposals for action at the country level and supporting action at the regional level. Although not comprehensive, they represent priority activities which together will significantly enhance the performance of the infrastructure sector. They will also reduce the investment "gap" by increasing output from existing infrastructure and demonstrating to potential donors the earnest efforts being made to create the right investment climate. In developing the action plan, special consideration has been given to the maximum utilization of available regional resources for the benefit of capacity-building.

62. Further delineation of priorities within the overall framework of the action plan will follow the formulation of specific programmes and projects for implementation. Detailed priority-setting at the national level, perhaps with regional assistance, will depend on a critical perception of the major constraints and shortcomings within the prevailing political and social context. Each country will be required to determine the priorities as part of its national strategy. Not all the recommendations will apply equally to all countries.

63. Priority-setting at the regional level will involve further reflection and a critical review of the action plan at various legislative meetings. At the implementation level, regular contact between the involved United Nations agencies and recipient countries will provide the opportunity for adjustment of implementation schedules in response to changing national priorities.

64. Mechanisms to involve the infrastructure user community and the private sector to participate in the

process of priority-setting at both the national and regional levels will be instituted.

Time-frame

65. Preferably, action in implementing of the plan should begin immediately. It is, however, recognized that the proposed removal of the deeply rooted institutional obstacles to infrastructure development is not just a technical issue but involves a re-education process that will touch upon many sensitive areas. In addition, the lead time and scale of infrastructure projects dictate that, for the programme to be implemented in full, the concerted, coordinated efforts of countries and regional institutions will have to be brought to bear through and beyond the new century.

66. In view of the above, the time-frame for the implementation of the action plan will extend from the time of its adoption as the New Delhi Action Plan on Infrastructure Development in Asia and the Pacific, over the period of the upcoming medium-term plan, through to the year 2003.

Monitoring

67. The implementation of the action plan will provide a logical continuation of the work already under way within the Transport and Communications Decade for Asia and the Pacific. It is proposed that a similar framework for monitoring, which has proved successful for the Decade, be adopted for monitoring implementation of the action plan. Inter-agency meetings, ad hoc intergovernmental meetings or legislative committees will provide the opportunity for the annual discussion of topical issues of concern to the region. Through this approach, implementation of the action plan can be kept under review and redirection given, as required, to ensure that planned activities and outputs remain relevant to the priority needs of member countries.

68. To facilitate the monitoring process, specific and measurable achievement indicators will be developed and consolidated within individual projects.

69. Detailed progress reports will be submitted to the Committee for Transport and Communications for consideration at its biennial sessions. In presenting progress reports, countries will be invited to keep the Committee informed of the progress of implementation at the country level. A consolidated report on the activities and outputs from the regional programme will also be reported.

VI. STRATEGIES FOR RESOURCE MOBILIZATION

70. The scale and goals of the action plan are ambitious. At the national level, actions call for a fundamental examination of current practices and the implementation of far-reaching proposals to increase

efficiency and output from the infrastructure sector while reducing costs. Such a process will not be easy, as it will have an impact on all aspects of policy formulation, administration, management and operations. However, the potential benefits will fully justify the resources deployed in achieving a new level of economic and social development.

71. Every effort should be made to mobilize traditional and non-traditional resources to support the proposals for action at the national and regional levels. For many countries, this will require efforts to mobilize domestic savings. In this respect, initiatives taken to implement the action plan at the national level, with resulting benefits to the infrastructure sector, will generate increased confidence in the process and encourage support from potential domestic and international donors.

72. Within the region, extensive resources exist in terms of expertise and experience which could be deployed to facilitate infrastructure development. Through a process based on technical cooperation between developing countries, it will be possible to explore the sharing of a wide range of these resources, including training facilities, to provide, among other things, educational opportunities for overseas personnel; educators, who could travel to other countries and assist in the development of training programmes and delivery of materials; experts, who could share their experience with others; and information, which could assist in avoiding obstacles and overcoming problems. To support such initiatives, action at the regional level to assist in "matchmaking" could create openings for the extensive application of this approach.

73. The private sector, indigenous and foreign, will have an important role to play in sharing expertise and through direct involvement in financing and managing infrastructure projects. Its role, however, should not be constrained to particular project areas. Instead it should be encouraged to support the process of change through the contribution of expertise and financial support. With the expeditious implementation of the action plan, the private sector will be able to invest in an environment more closely attuned to the level of confidence and efficiency which will allow it to perform more effectively.

74. Many countries, including the least developed, land-locked, and island developing countries and the disadvantaged economies in transition, will require considerable assistance from both national resources, from within the public and private sectors, and from regional and subregional institutions and donor Governments.

75. All concerned donor countries and agencies need to give special attention to the provision of financial and technical assistance for the execution of the programmes and projects to be implemented under the action plan. Through concerted and continuing

insistence on priority support for the implementation of the action plan in the highest national, bilateral and regional forums, donor contribution and collaboration can be secured. Demonstration of progress in implementation, at the national and regional levels, will be the strongest of arguments for continued support.

51/9. Mid-term review at the regional level of the implementation of the Programme of Action for the Least Developed Countries for the 1990s⁹

The Economic and Social Commission for Asia and the Pacific,

Recalling its resolution 47/4 of 10 April 1991 on implementation of the Programme of Action for the Least Developed Countries for the 1990s, in which the Commission stressed that the successful implementation of the Programme of Action would depend on shared responsibility and strengthened partnership for the growth and development of the least developed countries,

Recalling also its resolution 49/8 of 29 April 1993, in which the Commission invited all members and associate members to participate actively and to extend generous assistance in the preparation of the mid-term review at the regional level of the implementation of the Programme of Action,

Bearing in mind General Assembly resolution 49/98 of 19 December 1994, in which the Assembly decided to convene the High-level Intergovernmental Meeting on the Mid-term Global Review of the Implementation of the Programme of Action for the Least Developed Countries for the 1990s in New York from 26 September to 6 October 1995, and requested all relevant organs, organizations and bodies of the United Nations system to submit reports containing a review of the implementation of the Programme of Action as inputs to the preparation for the mid-term global review,

Taking note of the Declaration adopted at the Ministerial Meeting of the Least Developed Countries, held at United Nations Headquarters on 4 October 1994, in pursuance of the decision taken at the Ministerial Meeting held in Dhaka in February 1990,

Emphasizing that the main objective of the Programme of Action is to arrest the further deterioration in the socio-economic situation of the least developed countries, to reactivate and accelerate their growth and development, and to set them on the path of sustained economic growth and sustainable development,

⁹ See para. 444 above.