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NATURAL RESOURCESProgress in the attainment of the goals of the International
Drinking Water Supply and Sanitation DecadeReport of the Secretary-General

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* A/40/50 and Corr.1.

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I. INTRODUCTION

A. Origin and purpose of the Decade

1. The importance of providing safe and adequate drinking water supply and sanitation has gained increasing international attention since the 1960s. In 1961 the Charter of Punta del Este recommended targets to be reached by the Governments of Latin America for the period 1961-1970. The General Assembly, in resolution 2626 (XXV) of 24 October 1970, by which it adopted the International Development Strategy for the Second United Nations Development Decade, stated that each developing country would endeavour to provide an adequate supply of potable water to a specified proportion of its population, both urban and rural, with a view to reaching a minimum target by the end of the Decade. In 1976, HABITAT: United Nations Conference on Human Settlements recommended that quantitative targets should be established by countries to ensure that all their people would have access to safe water supply and hygienic disposal of human wastes by 1990. A year later, the United Nations Water Conference at Mar del Plata proposed that the decade 1981-1990 should be designated as the International Drinking Water Supply and Sanitation Decade. 1/ The Conference adopted, in resolution II of the Mar del Plata Action Plan, 2/ a number of recommendations for the implementation of the Decade. The International Development Strategy for the Third United Nations Development Decade (General Assembly resolution 35/56, annex) also calls for safe water and adequate sanitary facilities to be made available to all rural and urban areas by 1990.

2. The basic principle underlying the International Drinking Water Supply and Sanitation Decade is that people cannot achieve a quality of life consistent with human dignity unless they have access to safe drinking water and sanitation facilities, and that such access is therefore a basic human right. In addition, the adverse effects of contaminated drinking water and poor sanitation are well documented. It is reliably estimated that some 15 million children under the age of five die in developing countries every year, mainly because of water-borne diseases. The same diseases exact a heavy toll of mortality and morbidity among the adult population. Deprived of a drinking water source near the home, millions of women and children are obliged to spend many hours each day travelling long, fatiguing distances to fetch water for their families. Management of the home and the well-being and education of the children suffer accordingly. Ill health, traceable to water-borne diseases and unhygienic sanitary practices, leads to heavy economic costs in terms of lost work-days and lower productivity. The United Nations Water Conference registered the universal view that people in the developing world should no longer be condemned to live under such conditions, and that Governments of developing countries and the international community should join in a major concerted effort to improve the situation substantially.

3. The International Drinking Water Supply and Sanitation Decade was launched by the General Assembly on 10 November 1980 at a one-day special meeting during its thirty-fifth session. In resolution 35/18, the Assembly stated that during the Decade Member States would assume a commitment to bring about a substantial improvement in the standards and levels of services in drinking water supply and

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sanitation by the year 1990. In the same resolution, the Assembly called upon Governments to develop the necessary policies and set the targets, to set sufficiently high priorities, and to mobilize adequate resources to achieve their targets. Governments were also urged to strengthen, as appropriate, their institutional frameworks, to mobilize the necessary expertise at all levels, and to heighten popular awareness and support through education and public participation programmes. The Assembly also called upon Governments, organs, organizations and bodies of the United Nations system and other intergovernmental and non-governmental organizations concerned to continue and, if possible, to increase their technical and financial co-operation with developing countries, and to continue their efforts to co-ordinate their activities. The General Assembly also decided to review, at its fortieth session, the progress made towards the attainment of the national and international goals of the Decade.

4. The ideal of providing safe and adequate drinking water supply and sanitation to all people remains the basic underlying principle of the Decade. Yet both the United Nations Water Conference in 1977 and the General Assembly in 1980 realized that the ultimate global goal of safe drinking water supply and adequate sanitation for all depends upon the individual commitments each Government must make to endorse the General Assembly resolution, and then to establish ambitious but realistic goals and targets for the Decade and sound policies and programmes for achieving them.

5. The International Drinking Water Supply and Sanitation Decade is thus not a single decade, but is constituted by as many decades as there are countries committed to achieving substantial progress. The achievements of the Decade cannot be measured in relation to one single global standard, but against the progress each country achieves in dealing with the complexities of providing drinking water and sanitation, in accordance with the targets it has set for itself. The Decade marks only a time during which Governments have committed themselves to a dramatic intensification of efforts which began before 1981 and will continue after 1990. In accordance with the recommendations of the Mar del Plata Action Plan, the approaches to be taken during the Decade accord priority to rural and urban populations that are inadequately served, the formulation and implementation of self-sustaining programmes that emphasize self-reliance, the use of socially relevant systems, the involvement of the community in all stages of programme development and the complementarity of water supply and sanitation programmes with health and other programmes.

B. Scope of the report

6. For the purpose of the review to be undertaken at its fortieth session, the General Assembly, in its resolution 35/18, requested the Secretary-General, in consultation with the Administrative Committee on Co-ordination, to prepare a comprehensive analysis of the situation on the basis of progress reports by Governments and by the international organizations concerned, and to submit it to the General Assembly through the Economic and Social Council. The Council, in its decision 1983/176 of 28 July 1983, approved the provisional agenda for the ninth session of the Committee on Natural Resources, and the submission of a report by

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the Secretary-General on the implementation of the Mar del Plata Action Plan and the Decade, to be considered by the Committee under the item of its agenda relating to water resources development.

7. The present report has been prepared in response to those decisions, in consultation with the organizations of the United Nations system concerned, under the aegis of the Steering Committee for Co-operative Action for the International Drinking Water Supply and Sanitation Decade. The data used in the report come from two sources: the Decade monitoring system created and managed by the World Health Organization (WHO) and material available to other organizations within the United Nations system.

8. The monitoring system was developed by WHO in response to the recommendations in the Mar del Plata Action Plan that the monitoring and reporting on the status and progress of community water supply and sanitation should be intensified, and is based on information provided by Governments in the form of succinct "country sector digests". Thus far, two surveys have been conducted, the first in 1980 for the purpose of establishing baseline data against which progress could be assessed, and the second at the end of 1983 for the purpose of reporting progress to the General Assembly. The two surveys contain information on more than half of the developing countries, representing approximately 80 per cent of the population of the developing world, excluding China. Some information concerning Decade programmes in China has been included on the basis of data provided by other official sources.

9. The high proportion of the global population represented by the reporting countries and the range of information available to organizations of the United Nations system has made it possible to identify trends and developments during the first half of the Decade. Several factors limit the general conclusions which can be drawn, however. For example, the countries that provided data in 1983 were not always those included in the baseline survey in 1980, although many countries responded to both surveys. The completeness and quality of the survey returns also varied widely, and inconsistencies sometimes were apparent in the figures provided. For these reasons, care has been taken to avoid making quantitative statements about progress during the Decade whenever it was considered that the data at hand did not justify such statements.

C. The Decade in a global context ,

10. In reviewing the progress made so far, it is necessary to consider several international trends that have affected Governments' progress towards their goals.

11. The launching of the Decade in 1980 came at the beginning of the most serious world recession since the 1930s. In the period 1981-1983 the world-wide slow-down in economic activity affected virtually all countries, regardless of their levels of development or economic structure. Gross output in both industrialized market economies and developing countries grew at very low annual rates. Declining incomes and stagnant government revenues in many countries were coupled with serious balance-of-payments and debt service problems. For the developing countries

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as a group, per capita output declined in each of the first three years of the Decade.

12. The economic performance of individual countries, however, differed considerably from this aggregate. On the one hand, many of the low- and medium-income countries of Asia, including China and India, adjusted relatively well to the stagnation and instability of world markets until 1983. The Asian region as a whole registered relatively high annual growth rates from 1981 to 1983, the performances of the newly-industrializing countries of east Asia being particularly noteworthy. On the other hand, the low- and middle-income countries of Africa south of the Sahara registered extremely low growth rates, and the countries of Latin America and the Caribbean as a group showed negative growth rates for each of the three years.

13. The signs of recovery in some industrialized countries in 1984 have so far had a relatively limited impact on the economies of the developing countries. The outlook for recovery among the heavily indebted developing countries of Latin America and the least developed countries of Asia and Africa remains uncertain, especially in the light of high real interest rates, low commodity prices and weak financial flows. The lowest rates of expansion forecast for 1985 are in the least developed countries, most of which are located in Africa south of the Sahara. In many of those countries, growth rates are estimated at levels which barely keep up with population increases, and are a cause for serious world-wide concern.

14. Population patterns also need to be taken into account in considering the implementation of the Decade. Population growth rates in the developing world remain high, though significant reductions have been achieved, notably in China as well as in some other countries of Asia and Latin America. Overall, population growth rates in developing countries remain at over 2 per cent per year and, in the case of Africa south of the Sahara, at nearly 3 per cent. As a result, just to keep pace with population growth, approximately an additional 67 million people in developing countries would need to be provided with adequate water supply and sanitation facilities during each year of the Decade. Of these, some 41 million would be in Asia, 1.4 million in western Asia, some 15.5 million in Africa (of whom 12 million would be in countries south of the Sahara), and some 9 million in Latin America and the Caribbean.

15. The urban population in developing countries is growing at almost twice the rate of total population, partly as a result of urban migration. Developing countries are becoming the location of the world's most rapidly growing and largest cities. This trend creates an increasing problem with regard to providing water supply and sanitation, especially to low-income populations in peri-urban areas. At the same time, because of its very large base, the rural population is still increasing significantly in absolute numbers, and the task of providing adequate services to rural areas continues to be a major one.

16. Many countries in Africa have been confronted since the early 1980s with acute food shortages, due in part to economic and population problems but compounded by an increasingly serious drought. The drought that has devastated many countries in the African region has had an extremely adverse effect on their ability to deal

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with longer-term development, including the water and sanitation needs of their populations. Governments and donors alike are focusing on critical short-term needs for food and emergency relief. Reduced physical supplies of water available in many areas have increased the competition for its use in agriculture, for livestock, and for human consumption. These factors have influenced the pace at which some Governments in Africa have been able to expand safe drinking water supplies. Solutions to these problems will require longer-term programmes aiming, among other things, at providing safe and reliable sources of water supply, particularly in rural areas, both for human consumption and for agricultural production.

17. The following section of the report assesses progress and describes actions taken by Governments and by the international community to overcome the constraints that stand in the way of progress towards improved drinking water supply and sanitation services for urban and rural populations.

II. REVIEW OF ACTIONS AND PROGRESS

18. On the whole, there are indications of progress in most, if not all, of the developing countries, although each country is moving at a different pace towards the achievement of its Decade objectives and targets. For the purposes of this report, progress in the implementation of the International Drinking Water Supply and Sanitation Decade has been gauged on the basis of actions by Governments, service coverage and the response of the international community in support of national programmes and efforts.

A. Action by Governments

19. The United Nations Water Conference, in resolution II, 2/ formulated a plan of action for community water supply, in which it recommended seven interrelated areas for action at the national level. These are: (a) development of national plans and programmes for community water supply and sanitation within the context of socio-economic development planning, giving priority attention to the segments of the population in greatest need; (b) initiation of engineering and feasibility studies for projects of the highest priority, based on cost-effective technology appropriate to local conditions, with community participation, good management, and provision for operation and maintenance; (c) assessment of manpower requirements and the development of training programmes; (d) mobilization of public opinion; (e) establishment of appropriate institutions; (f) co-ordination of efforts in the rural areas; and (g) stimulation of investment in water supply and sanitation, including improvements in tariff structures and innovation in funding procedures.

20. In 1980 and again in 1983 a number of constraints concerning the implementation of the Decade at the national level were identified through the WHO monitoring system. Overall the ranking for four of the most important constraints listed in all regions, both in 1980 and in 1983, namely, funding limitations, operation and maintenance, lack of trained personnel at the professional and sub-professional level, and the inadequacy of cost recovery policies, has remained the same.

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Constraints concerning the use of inappropriate technologies, the lack of planning and design criteria, and the inadequacy of legal structures appear to have diminished in importance. There are some regional differences in the ranking of these constraints. In western Asia, for instance, the lack of sub-professional and professional personnel has been ranked highest. African countries have consistently rated funding limitations as the highest constraints, and countries in Latin America and the Caribbean region stress the inadequacy of cost recovery policies.

21. Measures taken by Governments to deal with the constraints encountered in the implementation of the Decade in the above-mentioned seven areas of action are discussed below under four broad headings: establishment of national plans and targets for the Decade; strengthening of institutional mechanisms; improvement of national resource mobilization and utilization; and adoption of new initiatives.

1. Establishment of national plans and targets for the Decade

22. The United Nations Water Conference, in resolution II, recognized that the first step in implementing the Decade was for each country to establish targets for 1990 which, as far as possible, matched the global goal of providing safe water supply and appropriate sanitation for all. It also recommended that Governments should develop plans and programmes, and stressed that those plans should be developed not in isolation, but within the context of the socio-economic development plan periods and objectives.

23. Information available through the WHO monitoring system shows that at the start of the Decade, at the beginning of 1981, only nine countries were known to have developed Decade plans. By the end of 1983 this number had grown to 59, and an additional 31 countries reported that plans were in various stages of preparation. The countries reporting on the establishment or preparation of national Decade plans as of 1983 are listed in annex I.

24. All 59 countries with established plans have set specific service coverage targets in one or more subsectors (urban water supply, rural water supply, urban sanitation and rural sanitation). In addition, 17 of 31 countries with plans in preparation reported the setting of targets, bringing to 76 the total number of countries known to have set some specific Decade targets as at the end of 1983. Official sources from China have reported that the Government actively supports the Decade and that a nation-wide programme of improvements, giving priority to rural areas, has been initiated through the Ministry of Public Health.

25. The sector plans and targets for increased service coverage as reported to the WHO monitoring system, most of which were adopted in 1982 and 1983, vary considerably from both country to country and subsector to subsector. On average, countries hope to achieve substantial increases in service coverage by 1990. Although substantial time-lags can always be expected between the formulation of plans and their implementation, 22 Governments have already felt the need to modify - in most cases to scale back - their original targets. These modifications no doubt resulted from Governments' experiences with programme implementation

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during the first few years of the Decade and the realization that the targets were not attainable by 1990. In many countries targets still appear to be set too high and, on the basis of progress to date, can probably not be met without substantial acceleration of the rate of present programme implementation.

26. National plans and targets, in spite of their limitation, are essential tools for keeping Decade programmes in clear view. That so many Governments have established plans and targets is an indication of their serious commitment to the Decade and its objectives. It is also, as these plans and targets are reassessed, evidence of their willingness to respond dynamically to ever-changing conditions affecting the implementation of plans and the achievement of targets.

27. The sector planning activities stimulated by the launching of the Decade have accelerated the identification and preparation of programmes and projects. During the first three years of the Decade, a number of multilateral and bilateral agencies provided increased assistance to Governments in identifying and preparing projects. As a result, the number of project proposals for the Decade - most of which seek grant rather than loan funding - circulated to international funding organizations through the WHO Project Preparation Information System (PPIS) has far exceeded the volume of funds available. Not all of these project proposals are of the quality needed to attract financing, or of the type which external support agencies would be interested in supporting, but the overall level of quality has improved, especially in relation to cost-effectiveness and sensitivity to cultural and social factors.

28. Even though more projects of higher quality have been prepared and PPIS provides a means to link the projects to potential funding organizations, the number of projects funded is strongly affected by other factors also. Among these are the national and external investment funds available (a topic discussed more fully below), the preference of many donors for supporting projects that are in accordance with their own programme priorities, and their perception of the capacity of the national sector agencies to implement and operate and maintain projects.

29. The lack of an adequate drinking water supply and sanitation data base at the national level constitutes a serious impediment to a country's ability to establish priorities, formulate plans and programmes, and define targets. In recognition of this, it was recommended in the Mar del Plata Action Plan that the responsibility for the planning, implementation and monitoring of progress in this sector should be assigned to appropriate institutions. This complex and costly process is yet to be developed in most developing countries.

2. Strengthening of institutional mechanisms

(a) Institutional changes

30. Nearly all countries attending the Conference at Mar del Plata cited institutional deficiencies as important constraints on development within the sector. Problems concerning multiplicity of agencies dealing with water and

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sanitation, with sometimes overlapping jurisdictions and competing interests, and an inadequate framework for encouraging and supporting local initiatives and community participation are among the frequently mentioned constraints. The Mar del Plata Action Plan recognized that the success of the Decade would hinge, to a large extent, on the establishment by countries of more effective institutional arrangements for the planning and management of water resources in general, and for the drinking water supply and sanitation sector in particular.

31. During the first half of the Decade, some Government have taken initiatives to strengthen the sector institutions and to establish more effective intersectoral co-ordination for Decade planning and management. It appears, however, that only limited progress has been made. By 1983, of 86 countries for which information was available, 7 indicated that the lack of an appropriate institutional structure constituted a very severe constraint, 22 classified it as severe, and 31 as a moderate constraint. This conforms almost exactly with the information reported in 1980 when countries assessed inappropriate institutional mechanisms as seventh in order of importance in a list of 17 constraints.

32. Under the Mar del Plata Action Plan, Governments are called upon to review the organizational infrastructure for community water supply and sanitation, and set up, where it is considered appropriate, a separate department for this purpose. Some countries, such as Brazil and Chile, initiated institutional changes prior to the Conference. Since then, an increasing number of other countries have followed this recommendation, among them Burkina Faso, India, the Ivory Coast, Malawi, Nepal, Pakistan, Peru, the Philippines and Sri Lanka. These arrangements have enabled Governments to plan and manage projects more efficiently, attract talented professionals and provide better services to the population. Some countries have also established special units to deal with specific aspects of water supply and sanitation. For example, Indonesia, Lesotho and the United Republic of Tanzania have established special units to plan and manage pilot and large-scale on-site sanitation programmes. These units are still relatively new and experimental but should prove useful, among other things, in promoting the use of appropriate technology in future investments projects.

33. Another trend in institutional development during the Decade has been the movement towards increased responsibility for programmes at the regional and other local levels of government. In some instances, such as in the Philippines Rural Water Supply and Sanitation Project, this responsibility takes the form of provincial and municipal control over co-ordination of the three national agencies implementing the project. In other cases, sector ministries with the major responsibility for rural water supply programmes decentralize authority to lower levels by establishing regional offices staffed by managers and technicians who exercise a wide range of responsibility under uniform management and financial controls and procedures. In China, for example, five provincial offices have been established under the supervision of the national project office of the Central Patriotic Health Campaign Committee to implement rural water supply projects.

34. In order to achieve more effective inter-agency and intersectoral co-ordination in the planning and management of activities for the Decade, Governments were invited to consider the establishment of national action committees or similar

mechanisms. Since the launching of the Decade, 77 countries have reported establishing such committees or equivalent bodies. The degree of authority vested in these committees varies considerably from country to country. Some are advisory bodies, while others have been so structured as to be able to influence sectoral plans and priorities. As a result, their effectiveness varies considerably.

35. The national action committees have provided a forum for intersectoral consideration of the planning and management of drinking water supply and sanitation, where none may have existed previously. For example, they have given health authorities the opportunity to promote health objectives within water and sanitation programmes, and water projects as integrated components of primary health care delivery systems. In addition, some national action committees have been instrumental in mobilizing high-level government support for the Decade, as was the case, for example, in Turkey and Zimbabwe, where Prime Ministers participated in the launching of national Decade programmes. In numerous countries, the committees have also been responsible for organizing Decade workshops and consultations with the donor community on Decade plans and priority programmes.

(b) Manpower development

36. Shortage of trained manpower at all levels was identified at the inception of the Decade as one of the most serious constraints on institutional development and, therefore, the attainment of national Decade goals in most developing countries. Encouraging progress can be identified in all regions but, overall, inadequacy of trained manpower and its effective utilization continues to be a major problem. In this respect, Governments and aid agencies alike face a dilemma: whereas meeting existing manpower needs is too urgent to be delayed, benefits from manpower investments are unlikely to be fully realized unless a greater measure of institutional development has first been achieved. Resolving this calls for critical analysis as well as assessment of needs, and establishing criteria for selecting training priorities in the light of sector manpower and training policy. Unfortunately, many countries do not yet have such a policy, without which scarce training resources may be misapplied.

37. One success story of the Decade serves to place training in proper perspective. A recent evaluation of water supply and sanitation institutions in Tunisia concluded that the essence of the evolution of thoroughly sound sector institutions in Tunisia, with a dedicated and performance-oriented staff, was managerial autonomy, sound sector finances, the reputation of being well-managed and expanding enterprises, and personnel policies that rewarded merit and kept remuneration competitive. With those assets, training in Tunisia, while by no means neglected, had come to be regarded as a routine support function. Similar approaches are being tried in the Philippines and Zaire. It is also encouraging to note that Burkina Faso, Burma, the Comoros, Gambia, Ghana, Haiti, Honduras, Kenya, the Lao People's Democratic Republic, Malawi, Malaysia, Maldives, Pakistan, Paraguay, the Philippines, Somalia, the Sudan, Swaziland, United Republic of Tanzania and Zambia have reported that they are conducting assessments of training needs.

38. Among other encouraging signs is the commitment of some Governments to developing training systems that, in addition to meeting immediate training needs, are being designed as the first phase of a long-term training strategy for an agency or sector as a whole. Countries in which systems of this kind are being developed or planned include Brazil, China, Egypt, India, Indonesia, the Philippines and Sri Lanka. Also in this category is a subregional programme covering the seven countries of Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama, which aims at training a large number of technicians in operation and maintenance. A significant feature of the rural training programmes being developed in China and the Philippines is the definition of accredited skill standards for operation and maintenance against which some thousands of rural operators will be trained, tested and certificated. In Africa, nationally accredited diploma programmes in water engineering for technicians have been introduced in Botswana, Kenya and Nigeria. The advantage of these programmes over more traditional engineering study programmes is that, because they are sector-related, graduates are more likely to remain involved in the sector.

39. Many countries continue to report severe shortages of sub-professional staff, whereas in some cases the real issue is overmanning at these levels. Countries for which data are available report increases in the number of artisans and skilled technicians which, when aggregated, amount to about 10 per cent since 1980. However, the lack of trained subprofessional personnel has retained its position, after insufficiency of funds, as the second most severe constraint on Decade objectives. Despite these positive signs that progress has been made in dealing with shortages among different manpower categories, much remains to be done.

3. Improvement of national resource mobilization and utilization

40. The proportions of national budgets allocated to drinking water supply and sanitation have, on average, remained relatively stable, in the range of 1 to 6 per cent since the start of the Decade. Some countries, however, such as Djibouti, Ethiopia, Lesotho, Malawi, Uganda and Zambia, report proportions exceeding 10 per cent of national budgets. National funding for the sector also appears to have increased significantly in a number of countries since the start of the Decade. For example, the Government of India, in its sixth five-year plan (1980-1985), has allocated approximately six times the funds for rural sector programmes and three times the funds for urban sector programmes that were allocated in the previous five-year plan. Large increases were also reported by Cyprus, Democratic Yemen, Nepal, the Philippines, Sri Lanka, the Sudan and Trinidad and Tobago.

41. Recent data seem to indicate that the proportion of external funds to national funds for capital investments remains high and may, in fact, be higher than had previously been assumed. In general, there is an inverse relationship between the level of per capita income in developing countries and the proportion of external financing going into the sector; in other words, the lower the per capita income, the higher the proportion of external funding. In Latin America and Asia, on average, about 40 per cent of the sectoral investment is financed by external sources. In Africa, the proportion of external funding may well exceed 80 per cent,

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some countries relying almost exclusively on external sources of financing. A few low-income countries, some of which belong to the group of the least developed countries, are exceptions to these averages. Angola, for example, reports that only 2 per cent of its sector funds are derived from external sources; and Kenya, Sierra Leone, the Sudan and Togo report that external financing ranges from 25 to 50 per cent of the total.

42. Heavy reliance on external funding, inevitable as it may be if progress is to be achieved in the short run, is unlikely to be a prescription for long-term development in view of the limited external resources available. In this regard, it is estimated that approximately 85 to 90 per cent of all funds needed for operation and maintenance as well as capital investment need to be generated internally. Despite the progress reported by some countries in increasing their budget allocations for Decade programmes, on the whole efforts have not been commensurate with the urgency expressed in the Mal del Plata Action Plan. Governments need, therefore, to make every effort to generate the resources needed to reach their Decade targets, including measures such as increasing the priority given to the sector in national development plans, improving the cost-effectiveness of initial investments and operation and maintenance, improving cost recovery, and generating resources from communities and the private sector. Improvement of cost-effectiveness, operation and maintenance, and cost recovery are key measures which are discussed below.

(a) Improvement of cost-effectiveness

43. The reduction of the per capita (unit) cost for construction of a water supply or sanitation system is clearly an effective means of increasing the real value of resources available for expanding drinking water supply and sanitation coverage, provided of course that the system remains consistent with acceptable performance and safety standards. Costs may be reduced in many ways, for example, by use of simpler technologies which are less costly to install and maintain, by reduction of water losses in piped systems, and by use of materials and components which can be supplied or manufactured locally. With this in mind, reduction of unit costs as far as possible should continue to be a major Decade objective.

44. Governments are becoming increasingly aware of the importance of using least-cost technologies which provide levels of service acceptable to the users and meet accepted engineering and health standards. A number of multilateral and bilateral organizations, particularly the United Nations Development Programme (UNDP) and the World Bank, have been promoting the development and use of low-cost technologies for water supply and sanitation in an effort to reduce unit costs. Major projects using improved rural water supply handpumps are under way in countries such as Ghana, India, the Ivory Coast, Kenya and the United Republic of Tanzania. The new types of handpumps lower the high cost of operation and maintenance in rural areas, partly because they are more reliable and thus require fewer costly repairs; and, perhaps more important, because they are technically simple enough to be maintained and repaired by the communities that use them. India and a number of countries in East Africa are also installing thousands of improved latrines. The appropriate least-cost solution may not always be the lowest-cost one. Higher-income users may desire a higher level of services which

can be provided only by costlier technologies such as those used in many countries, especially in western Asia and in Latin America and the Caribbean.

45. Unit costs can also be reduced by local manufacture of basic components of water supply and sanitation systems such as pipes, handpumps, and latrine components. Brazil and India are two countries which have considerably reduced the foreign exchange elements of projects by encouraging local industries to manufacture components for many types of projects. A number of countries, among them Bangladesh, Burkina Faso, India, Malawi, Sri Lanka and Zimbabwe, are manufacturing handpumps, some of which were also designed locally.

(b) Improved operation and maintenance

46. Operation and maintenance are closely related to cost-effectiveness, and in fact a determining factor of the latter. Projects must be designed with plans and procedures for operation and maintenance that are in keeping with the available skilled manpower and the availability of spare parts. Without adequate operation and maintenance the intended benefits of the capital outlay will be reduced or lost. For example, many rural water supply projects using handpumps have failed because of inadequate provision for maintenance. With failure of the pumps and interruption of safe water supplies, users returned to their previous, polluted water sources. In urban areas around the world inadequate maintenance has led to large water losses and to failure of systems to perform at installed capacity.

47. Many Governments are recognizing the importance of improving operation and maintenance procedures. The Government of Peru, for instance, in co-operation with other Governments in the Andean region, the Inter-American Development Bank and the Pan-American Health Organization, is implementing a project for the training of personnel for operations and maintenance. In some urban areas, improved operation and maintenance, by reducing water losses due to leakage or illegal connections, rationalizing distribution systems, and using pressure zoning, are making existing systems function more efficiently. New customers can be connected with no increase in the installed capacity of the systems and the capital investments saved used elsewhere. Brazil, for example, has made significant advancements in leak detection and control. Progress is also evident in rural areas of Africa and south Asia where more easily maintained handpumps are being installed and community-level systems established to operate and maintain them.

(c) Improved cost recovery

48. The recovery of costs for capital investment and operation and maintenance often receives less attention than the mobilization of funds to build new systems. As noted above, however, Governments recognize the importance of cost recovery for Decade projects. Inadequate cost recovery was placed among the top four constraints in 1980, with Governments in Latin America and the Caribbean ranking it as a first priority.

49. When inadequate cost recovery results in insufficient revenues to cover costs, maintenance of facilities is often neglected, leading to physical deterioration of systems, reduced services and, in the worst case, to system failures. Recovery

of costs is likely to become increasingly critical in the future, moreover. As populations and water consumption increase, development of new water sources is likely to grow ever more expensive. Adequate provisions for recovery of costs thus are essential to generate funds necessary to sustain existing systems and to develop future ones.

50. In the first three years of the Decade, it appears that there was only minimal progress. In 1983 inadequate cost recovery continued as one of the four most important constraints. One example of success, however, occurred in Sri Lanka. In 1983, the National Water Supply and Drainage Board was recovering less than 5 per cent of operating expenses, necessitating a diversion of funds from capital investments and maintenance to support operations. In early 1984 major changes in metering, user charges, billing and collection, and leak detection were implemented; in less than one year cost recovery jumped from the original 5 per cent to 25 per cent.

4. Adoption of new initiatives

51. In the Mar del Plata Action Plan considerable emphasis is placed on the development of new strategies and approaches to sector development. Among the approaches identified are the co-ordination of water supply and sanitation services as an integral component of primary health care, the mobilization of public opinion and the stimulation and support of community participation, the enhancement of the role of women, and the more active involvement of non-governmental organizations. Progress in these areas is difficult to assess and can only be presented in qualitative rather than quantitative terms.

(a) Primary health care and health education

52. Without adequate and safe water supply and appropriate sanitation services combined with health education, little improvement can be expected in health and the quality of life. Water supply and sanitation services are therefore fundamental to community health, and as such form an essential element, if not a prerequisite, of the success of any primary health care programme. They are essential to the prevention of water-related diseases such as diarrhoea, schistosomiasis and Guinea worm, among others.

53. Maximizing the health impact of investments is a principal aim of primary health care workers, who should give priority to the provision of water supply and sanitation. This emphasis leads to natural linkages which are occurring in many countries at both the institutional and the project levels. For example, in Papua New Guinea, the institutional structure for drinking water supply and sanitation is decentralized, and it is linked with elements of primary health care largely through the use of the same delivery system. In this way, the primary health care worker, an already accepted community member, becomes the main promoter of the water and sanitation improvements. Morocco, on the other hand, plans to use the drinking water supply and sanitation infrastructure as a means of improving primary health care. At the project level in Malawi, the Urban Communal Water Point project is an integral component of a broader primary health care programme

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which operates through community involvement in 48 urban centres. In Burkina Faso, a health care component has been integrated into a rural water supply project at Bobo-Dioulasso. Under the control of the Ministry of Health, this component provides for the training of rural health care workers in order to strengthen primary health care and extend it to remote villages.

(b) Community participation

54. In most countries, the planning, location, design and construction of facilities have traditionally been carried out by government agencies and officials without the involvement of the eventual users and with limited, if any, consultation with them. When systems are planned and designed by outside agencies often not familiar with local needs, customs and aspirations, the technologies and systems installed have frequently proved to be inappropriate and unacceptable to the users. The results have been wasted investments: systems which have not worked and which have been abandoned. Meaningful community involvement is more than the supply of free labour and local materials, or perhaps a cash contribution. It is involvement of the community in all stages of development of projects, from initial concept and planning to construction to operation and maintenance. If this is not done, communities will think of themselves as bystanders in the process and look upon Governments as solely responsible for providing and maintaining these basic community-level services.

55. Many Governments attending the Mar del Plata Conference cited the lack of community participation as a serious constraint, particularly in rural areas, and it is recommended in the Mar del Plata Action Plan that communities should be appropriately motivated and involved in all aspects of sector programmes. In the first three years of the Decade, community participation became accepted as an essential ingredient in the formulation and implementation of projects. As a result, there has been a notable increase in efforts to promote community participation in countries in every region.

56. In some instances, communities themselves have recognized the importance of improved water supply and sanitation and taken steps to improve services. For example, as part of the Republic of Korea's "New Village Movement", rural communities established, on their own initiative, 31,000 simple piped gravity systems which have extended drinking water supplies to more than 8 million people. Malawi offers a similar example, in which communities must request a gravity-fed piped water system and commit themselves to its construction, operation and maintenance. The Government provides primarily expert advice and construction materials.

57. In most cases, however, particularly in isolated rural areas, meaningful community participation is not easy to achieve and involves substantial costs. Community educators and organizers are needed; meetings and consultations must be held; local contributions and financial systems must be mobilized; and so on. Nevertheless, numerous examples of successful community participation in rural areas can be cited. In Thailand, village technology groups helped to design bamboo-reinforced water storage tanks, and more than 1,000 tanks have already been built with the labour of participating villagers. Communities that participate in

the planning and design of systems are also more likely to participate in their operation and maintenance. Rural water supply systems using handpumps are being operated and maintained by communities in countries such as Burkina Faso, Kenya, Malawi, Mali and Thailand. Community participation can also be instrumental in generating the financial resources needed both for construction and for operation and maintenance. Financing of the bamboo water storage tanks in Thailand is handled through a revolving fund into which the owners of the tanks repay the construction costs according to a prearranged schedule. In the Ivory Coast, communities receiving water from handpumps have decided to pay for operation and maintenance rather than do it themselves.

58. Community participation has tended to be viewed as an approach to the provision of services in rural rather than in urban areas. In many developing countries, squatter settlements on the fringes of large cities are expanding rapidly because of high birth rates and migration from rural areas. These areas, home to the poorest urban residents, are often not connected to the central municipal water and sewage systems. Approaches to community participation similar to those used in rural areas can and are being used in these peri-urban areas as well. In one community in Pakistan, for example, community members, project engineers and a sociologist were all involved in bringing on-site sanitation to one squatter settlement, which now serves as a demonstration for on-site sanitation schemes in other communities.

(c) The role of women

59. In the past, the roles of women in all aspects of the development and operation of water and sanitation systems have often been neglected. Within the community, women have a special role to play in the development of adequate drinking water and sanitation facilities. In addition to being consumers of services, like all other members of the community, they generally have the principal responsibility for ensuring that the family is supplied with water, often at the cost of walking great distances. Having chief responsibility for preparation of food and care of the children, women are a vital link in the water-sanitation-health chain at the most basic level of primary health care, the home. Because of the importance of these roles, the Mar del Plata Action Plan places emphasis on the more active involvement of women in the development of the sector.

60. In some countries, special efforts are now being made by Governments and other organizations to increase the participation of women in Decade activities. For example, Nepal, Thailand and the United Republic of Tanzania are promoting the inclusion of women in village water committees. In Burkina Faso, Ethiopia, Honduras, Panama and the Philippines, women's organizations themselves have been instrumental in promoting, organizing and implementing service improvements. Lesotho, Mexico and the United Republic of Tanzania are making special efforts to include women in pre-project needs assessments and data collection. In Kenya, the Water for Health Organization, a consortium of national non-governmental organizations assisted by the Government, supports women's drinking water initiatives and is providing assistance throughout Kenya for projects benefiting substantial numbers of rural inhabitants. In a number of countries, women are taking part in self-help construction programmes, for example, in Burkina Faso

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(earthen dams); Malawi (piped water projects); Sri Lanka (manufacture of handpumps); and Thailand (rainwater catchment tanks). Women are also increasingly being trained as caretakers of handpumps in countries such as Angola, Bangladesh, Bolivia, India, Lesotho, Malawi, Nepal, Sri Lanka and Thailand. In the sanitation sector, women are being involved in feasibility studies in India and Lesotho and are being trained as sanitation promoters under Pakistan's Rural Integrated Water and Sanitation Programmes.

(d) The role of non-governmental organizations

61. There is increasing awareness of the importance that the non-governmental organizations, at both the international and national levels, have in the implementation of the Decade. At the international level, some 40 such organizations are contributing approximately \$130 million a year in external support to the sector in developing countries. They also on occasion serve as a conduit through which bilateral assistance is channelled to national and local organizations with ties to the poorer communities. The many indigenous non-governmental organizations at the national and local levels have been especially effective in assisting these poorer communities, and in many cases have demonstrated the powerful influence that they can have in the formulation and implementation of programmes where success relies heavily on community participation.

62. In recognition of the contribution which non-governmental organizations are making to the Decade, efforts are under way to harness their full potential as partners in achieving the goals of the Decade. In 1983, UNDP, in collaboration with the Governments of India, Bangladesh, Nepal and Sri Lanka, and with other organizations of the United Nations system, organized consultations involving national non-governmental organizations in each country, Government officials, bilateral organizations active in the sector, and related community programmes.

B. Service coverage

63. While service coverage is not the only, or even perhaps the main indicator of Decade progress during its first few years, because of the time needed for planning and preparation and the lag-time for construction, it is none the less a major objective and it is necessary in any evaluation to review the progress made thus far.

64. There is evidence that progress has been made throughout the world in extending drinking water and sanitation to urban and rural populations. Annex II provides the available information concerning national coverage for drinking water supply and sanitation from 1970 to 1983. The table below summarizes the situation regarding coverage on a regional and global basis in 1980 and 1983. These statistics are based on the assumption that the service coverage in the countries reporting is representative of the overall situation in the region, and that regional, and ultimately global estimates can be derived from the data reported by individual countries. In view of the comments made in paragraph 9 above, these results should be seen more as an indication of general trends than as absolute numbers. It must also be kept in mind that, in many countries throughout the world, poorly designed and poorly maintained water supply and sanitation systems

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Service coverage by region in 1980 and 1983
(Population in millions)

Region a/	Population covered					
	Population		Water supply		Sanitation	
	1980	1983	1980	1983	1980	1983
	Number	%	Number	%	Number	%
Africa (Economic Commission for Africa)						
Urban	135	160	89	66	73	54
Rural	334	356	73	22	67	20
Total	469	516	162	34	140	29
Asia and the Pacific (Economic Commission for Asia and the Pacific) b/						
Urban	428	493	278	65	175	41
Rural	1 064	1 109	277	26	117	11
Total	1 492	1 602	555	37	292	29
Latin America and the Caribbean (Economic Commission for Latin America and the Caribbean)						
Urban	234	254	183	78	131	56
Rural	124	126	52	42	25	20
Total	358	380	235	66	156	44
Western Asia (Economic Commission for Western Asia)						
Urban	27	30	25	94	22	80
Rural	21	24	9	41	4	18
Total	48	54	34	69	26	51
Global totals						
Urban	824	937	575	70	401	49
Rural	1 543	1 615	411	27	213	14
Total	2 367	2 552	986	42	614	26

Sources: 1980: report of the Secretary-General concerning the Decade (A/35/367);
1983: WHO surveys (see para. 8 above).

a/ No comparative data are available for the region of the Economic Commission for Europe.

b/ Excluding China.

are all too often not providing the intended level of service to the people for whom they were built. The results obtained from the analysis of data provided by countries is summarized below.

65. With regard to urban water supply, it appears that 90 million additional people were provided with water supply between 1980 and 1983. Because of rapid population increases in urban areas, this increase represents a change of only 1 per cent (from 70 to 71).

66. In the case of rural water supply, more than 250 million rural dwellers appear to have received drinking water supplies. Populations in rural areas have increased more slowly than in urban ones, so that the percentage of service coverage appears to have increased dramatically, from 27 per cent in 1980 to 41 per cent in 1983. This percentage (14 per cent over a three-year period) points to an increasing rate of programme implementation in rural areas; during the previous 10 years, an increase in coverage of only 13 per cent had been achieved.

67. As far as urban sanitation is concerned, since the beginning of the Decade sanitation services appear to have been extended to more than 150 million urban dwellers. Even with rapid urban population increases, the percentage of the urban population receiving sanitation services appears to have increased substantially, from an estimated 49 per cent in 1980 to 59 per cent in 1983. This increase would constitute a reversal of a declining trend observed in the previous 10 years.

68. The number of rural inhabitants with access to appropriate sanitation facilities appears to have declined, in both numbers (by almost 20 million) and on a percentage basis (from 14 to 12 per cent) during the period. This decline is puzzling. A number of countries are known to have rural sanitation programmes under way; and rural sanitation facilities, once installed, are not likely to cease functioning. The most likely explanation for the decline is a change in the accuracy of estimates between 1980 and 1983.

69. As might be expected, there were significant variations from region to region and from country to country. Latin America and the Caribbean seems to have made the most progress in extending water supply to its urban residents, with an increase in coverage from 78 per cent in 1980 to 85 per cent in 1983. Increases in coverage of between 5 and 19 per cent were reported by Argentina, Brazil, Ecuador, Haiti, Mexico and Paraguay. Although an additional 2 million urban dwellers in Africa may have been served, coverage failed to keep pace with population growth and declined from 66 per cent to 57 per cent. Only Somalia reported a significant percentage increase. Coverage in western Asia, already high in 1980 at 94 per cent, appears to have increased to 95 per cent. In Asia and the Pacific, an estimated 52 million people received service, to increase total coverage from 65 to 67 per cent.

70. As far as rural water supply is concerned, each region appears to have increased coverage in rural water supply by at least 7 per cent. The largest increases were in Asia and the Pacific, where more than an estimated 200 million people received service, for an increase in estimated coverage from 26 to 44 per cent. Substantial increases were reported to countries throughout the world, including Brazil, Guatemala, India, Liberia, Malawi, Malaysia, the Philippines, Rwanda and Sri Lanka.

71. As with urban water supply, Latin America and the Caribbean appears to have made the most progress in extending coverage for urban sanitation, from 56 per cent in 1980 to 80 per cent in 1983, by providing sanitation services to an estimated 72 million people. Brazil and Mexico reported the most substantial increases. Urban sanitation coverage also increased in the other three regions, although in Africa, where only Sierra Leone and Zambia reported significant improvements, coverage barely kept pace with population growth.

72. With regard to rural sanitation, only western Asia reported an increase in coverage, from 18 per cent to an estimated 25 per cent. Coverage in Latin America and the Caribbean appears to have remained essentially the same, while a decrease appears to have taken place in Africa and Asia. A number of countries in other regions reported some progress: in Africa, Rwanda; in Latin America, El Salvador, Guatemala and Honduras; and in Asia, Indonesia and Thailand.

73. It is difficult to predict accurately what the levels of service coverage will be at the mid-point of the Decade on 31 December 1985. However, on the basis of the information gathered from countries about service coverage in 1980 and 1983, and assuming the same rate of programme implementation until the end of 1985, it is estimated that during the first half of the Decade some 530 million additional people will receive reasonable access to safe drinking water and some 86 million people will receive adequate sanitation services. Improvements in urban water supplies will have been twice as great as those in rural water supplies, and improvements in sanitation will have been confined almost entirely to urban areas.

C. Response of the international community

74. Under the Mar del Plata Action Plan, the international community, and specifically the agencies and organizations of the United Nations were called upon to lend all possible support to help countries to achieve their Decade targets. It was recommended, inter alia, that external funds for community water supply and sanitation should be increased; that co-operation with Governments should be strengthened in such areas as programme and project preparation and manpower development; that co-ordination among United Nations agencies should be improved at international and country levels; and that activities to monitor the status of water supply and sanitation should be intensified.

75. An important response of the United Nations system to these recommendations was the establishment, in 1978, of an inter-agency Steering Committee for Co-operative Action for the Decade, to promote closer co-operation among United Nations agencies in support of the Decade at both the global and country levels. The members of the Committee are the Department of International Economic and Social Affairs and the Department of Technical Co-operation for Development of the United Nations Secretariat; the United Nations Environment Programme (UNEP); the United Nations Centre for Human Settlements (Habitat); the United Nations Children's Fund (UNICEF); the United Nations Development Programme; the International Research and Training Institute for the Advancement of Women; the International Labour Organisation (ILO), the Food and Agriculture Organization of the United Nations (FAO); the United Nations Educational, Scientific and Cultural Organization (UNESCO); the World Health Organization (WHO) and the World Bank.

76. The Committee functions as a focal point within the system to exchange information on members' activities related to the Decade and as a mechanism for harmonizing policies and taking joint action in areas considered to be of special importance to the progress of the Decade. It has established five inter-agency task forces on human resources development, information exchange, project formulation, public information, and women's role in the Decade. Programmes in all these areas have been planned and are being implemented. One example is the issuance in 1983 of a basic strategy document on human resource development for the Decade, which was distributed to all countries to assist them in assessing their present manpower situation and in formulating effective strategies and plans to develop the human resources needed for the Decade. WHO has followed this up with a human resources development handbook for use by Decade planners and project personnel. The Committee's task force on women and the Decade has produced a strategy paper for enhancing women's participation in water supply and sanitation activities, and a paper for policy makers and planners on how to involve women more actively in water supply and sanitation programmes at the community level. A handbook on project preparation has also been issued by the task force on project formulation.

77. Progress has been made with regard to the co-ordination of United Nations activities at the country level where, as agreed by the organizations of the United Nations system, the UNDP resident representative acts as focal point for the Decade support provided by the United Nations system to the country. In several instances resident representatives have expanded their co-ordination to include others in the international development community. Technical support teams have also been organized in a number of countries to lend technical support to the national action committees or equivalent bodies established by Governments. The teams function under the chairmanship of the UNDP resident representative and comprise country-based agency representatives and technical staff.

78. An important result of the country-level co-ordination has been a noticeable increase in inter-agency and intersectoral co-operation in the implementation of field projects. Examples include the collaboration between FAO, WHO and/or UNESCO within the framework of rural development projects, the inclusion of water supply and sanitation as integral components of urban development plans, and the inclusion of health impact assessment studies in the development of major water supply programmes. In Zaire, ILO and UNDP have collaborated in providing support for training programme developments; in Swaziland UNICEF and UNEP are collaborating in the sector; in India, UNICEF, UNDP and the World Bank are collaborating in support of Government plans to extend low-cost sanitation programmes into rural areas.

79. The Decade has also stimulated closer co-operation among bilateral agencies actively supporting water supply and sanitation programmes throughout the world. At a meeting held in the Federal Republic of Germany in 1984, the agencies attending compared their experiences in the sector, shared information about their future policies and approaches, and pledged support for closer co-operation in the Decade in the years ahead. In 1985, the Development Advisory Committee (DAC) at the Organisation for Economic Co-operation and Development is convening a meeting to review policies and donor assistance in the sector to promote future co-operation among its member countries. Bilateral and multilateral agencies have

also taken steps to increase co-ordination of their programmes, and many examples of collaboration between them could be cited. They have also, in recognition of the importance of training, joined to establish and support, beginning in 1985, a network of water supply and sanitation training institutions in developing countries; each institution will be supported by a bilateral agency, with the World Bank providing the overall network co-ordination.

80. The round-table meetings of the least developed countries which are being organized with UNDP support, and the World Bank-sponsored consultation groups for other countries, are useful mechanisms available to Governments to mobilize Decade support from the international community. In a few countries, such as Zaire, Governments with the support of WHO and UNDP have organized special consultations on the Decade which succeeded in mobilizing substantial resources for sector development. Several other Governments are expected to plan similar consultations in the coming years either independently or as follow-up to round-table meetings.

81. The flow of financial resources from the international community, including bilateral programmes and non-governmental organizations, serves as another dimension of support. The late 1970s saw a rapid increase in the amount of external resources allocated to drinking water supply and sanitation. The total amount of external resources levelled off in 1980 and 1981 at about \$2,100 million, coinciding with a stagnation in overall external aid. Loans by the World Bank and other development banks constituted approximately 50 per cent of the total; bilateral organizations provided about 37 per cent; the United Nations system, including UNDP and UNICEF, about 7 per cent; and non-governmental organizations about 6 per cent.

82. The total funding provided by the World Bank and other development banks has remained stable since 1980, although the amount of concessional financing available through the International Development Association has dropped since the inception of the Decade. This reduction, together with increases in interest rates for conventional loans has, in effect, brought about a relative hardening of terms and conditions under which financing from the various development banks can be obtained. At the same time, under the present economic conditions, Governments may be opting to use loans and credits for projects that yield more immediate and higher economic rates of return than water and sanitation projects. To some extent this is being offset by increases in grants made available by bilateral co-operation agencies. The Federal Republic of Germany, for instance, with one of the largest bilateral programmes in the sector, reports that between 1981 and mid-1984 its contributions had increased by 67 per cent. Belgium, Denmark, Finland, Italy, Norway, Switzerland and the United States of America also report increased funding commitments. The relative proportion of drinking water supply and sanitation as a part of total official development assistance ranges from a low of 2.7 to a high of 15 per cent. On average, it accounts for 5 to 7 per cent of the total.

83. As discussed previously, as a general rule, the poorest countries, especially those in Africa, are most dependent on external support for financing the development of drinking water supply and sanitation. The poorest countries, however, are not necessarily the ones that have the greatest access to loans and

credits from development banks for new investment projects. In fact, loans have tended to flow towards the largest and the relatively more affluent developing countries of Asia and Latin America. This situation is undoubtedly related to countries' absorptive capacity, their repayment capability, the tendency to give priority to the financing of income-generating projects, and, as noted above, the availability of well-prepared projects for financing. These factors are to some extent offset by policies of bilateral and other international organizations which, particularly in recent times, are making deliberate efforts to address themselves to the need of the poorest countries. In the case of UNDP, for instance, approximately 33 per cent of the funding for drinking water supply and sanitation projects flows to the African region, and 19 per cent to Asia and the Pacific.

84. Projects in urban areas and water supply projects continue to absorb the largest amounts of external assistance flowing into the sector. It is estimated that in 1983 bilateral agencies allocated from 84 to 95 per cent of their sector assistance to water supply and, with one exception, larger proportions of assistance to urban water supply projects than to those in rural areas. The same situation exists with regard to the financing of urban and rural projects by development banks, although the proportion of World Bank funds allocated to rural projects has increased from an average of 8 per cent between 1974 and 1980 to an average of 13.6 per cent between 1981 and 1984.

85. There are signs that policies relating to official development assistance for the sector are changing to correct the imbalances between water supply and sanitation and between rural and urban projects. In fact, for 1982 and 1983 a number of bilateral agencies report a concentration of activities in rural areas. At the moment, however, the shift from water supply to sanitation is less marked than the shift in emphasis from urban to rural water supply programmes. External funding agencies are also shifting funds into programmes to eliminate the main non-financing constraints identified by Governments. Those funds are supporting human resources development and public health education programmes, as well as programmes to improve operation and maintenance, promote community participation, and improve institutional arrangements.

86. Several bilateral development agencies have indicated that they have accepted Decade approaches in their funding to the sector. These include Belgium, Canada, Germany, the Federal Republic of, Italy, New Zealand, Norway, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland and the United States of America. In fact, some of these countries have already worked out strategies and policy statements for the Decade, or are in the process of doing so, notably the Federal Republic of Germany, Sweden, Switzerland and the United States of America. The need for increased attention to community participation, health education and the link to sanitation has been stressed by bilateral agencies from Finland, France and Norway.

III. RECOMMENDATIONS: A FRAMEWORK FOR NATIONAL AND INTERNATIONAL ACTION

87. The International Drinking Water Supply and Sanitation Decade has already had a significant impact, in spite of the adverse economic situation facing the world as a whole and the demographic pressures and climatic and programme difficulties facing specific regions and countries. The appreciation of the importance of safe water and adequate sanitation for health and the quality of life has been heightened throughout the world. Significant progress has been made in providing services where none existed and in improving services which were not satisfactory.

88. Despite this encouraging progress, most of the enormous task of providing water supply and sanitation services to the unserved still lies ahead. It is estimated that, at the mid-point of the Decade, some 1,200 million people will still need safe drinking water and some 1,900 million will still have no adequate sanitation. These numbers of unserved people represent more than twice the number of people provided with clean water during the first half of the Decade, and more than 20 times the number reached with adequate sanitation. Governments have set targets to try to serve many, if not all, of these people before the end of the Decade in 1990. Making significant progress towards meeting these targets will require a much greater sense of urgency during the next five years than has been evident since 1981.

89. The major obstacles to implementation of the Decade in 1985 continue to be those noted in 1977 at Mar del Plata. The recommendations contained in the Action Plan and those in General Assembly resolution 35/18 remain as pertinent today as they were then. The persistence of the same constraints, analysis of the rate of progress to date, and estimates of the enormous numbers of persons yet to be served suggest that higher priority must be accorded to some of those recommendations through a framework for national and international action. Although the importance of specific recommendations will vary from country to country, at the mid-point of the Decade the most critical recommendations generally concern strengthening national capabilities through accelerated institutional and manpower development and improving mobilization and utilization of national resources. These recommendations should be accompanied by measures, suggested at Mar del Plata and still important, to further the development and implementation of national programmes and projects.

90. The Committee on Natural Resources may wish to consider the following recommendations for action by Governments to strengthen their national capabilities:

(a) Measures to improve the performance of institutions responsible for the planning and management of water supply and sanitation programmes should be identified and implemented. These measures should aim to improve sector policy formulation, programme and project preparation, implementation, and monitoring capabilities. Where a number of institutions share responsibility for water supply and sanitation services, their respective roles should be clarified through appropriate administrative or legal means. If they are given the necessary support, national action committees or similar bodies can contribute to the co-ordination of policies, strategies and programmes of various agencies involved

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in water supply and sanitation activities. Governments might also consider adopting organizational structures at the national and local levels which facilitate and improve decision-making, accelerate implementation, and can respond readily to community needs. Where feasible, sector institutions should also support communities in self-help initiatives, in both urban and rural areas, to improve water supply and sanitation services;

(b) National strategies should be prepared and implemented and national capacities built to meet immediate and long-term needs for skilled manpower. Alternative approaches to meeting critical manpower needs might be explored, including on-the-job training and retraining and redeployment of staff for priority Decade programmes. At the same time, longer-term strategies and programmes should be prepared dealing not only with training but also with manpower planning, development of employment policies and wage scales designed to attract and retain qualified personnel, and improvement of supervision and management.

91. In regard to improving the mobilization and utilization of financial resources, the Committee may wish to consider the following recommendations for action by Governments:

(a) Current budget allocations for drinking water supply and sanitation programmes should be reviewed in the context of national development plans, in order to determine whether these programmes can be accorded higher priority and allocated increased budgetary resources;

(b) In new projects, consideration should be given to cost-effective design using appropriate least-cost technologies which are compatible with health and engineering standards and acceptable to the users; attention should be given to the rehabilitation and upgrading of existing systems; the user community should be involved in the planning, implementation, and operation of the system to the extent possible; and users should be educated in the use and intended benefits of the systems;

(c) Operating agencies should give due attention to routine maintenance of existing water supply and sanitation systems, and these agencies should provide in their budgets for an appropriate balance between investment in new systems and the operation and maintenance of new ones; in rural areas attention should be given to the establishment of systems which to the extent possible can be operated and maintained by the communities with the necessary back-up support from Government agencies or individual skilled personnel;

(d) Cost recovery policies which minimize Government subsidies through appropriate tariff structures or contributions from users for construction and operation of facilities should be developed and implemented.

92. The recommendations set out above for strengthening national capabilities and improving resource mobilization and utilization address the most important constraints listed by Governments in 1980 and again in 1983, and they have been identified as the most critical to accelerate progress during the next five years. The implementation of these recommendations would require substantial efforts over

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a period of time. At the same time, Governments could also undertake a number of actions within the framework of the Mar del Plata Action Plan which would contribute more immediately to the development and implementation of national programmes and projects. In this regard the Committee may wish to recommend that Governments should:

(a) Review priorities to determine whether current programmes are consistent with Decade objectives of bringing safe drinking water and sanitation to the poorest and most under-served segments of the urban and rural population;

(b) Take steps to improve project design and preparation in order to generate the necessary internal financing and needed external support, and to identify potential donors in the early stages of project preparation so as to take account of their particular requirements;

(c) Increase attention to health education; and ensure that close operational linkages are established and maintained between the health and water supply and sanitation agencies, that health agencies integrate water supply and sanitation concerns into health care programmes, and that every effort is made to link water supply and sanitation activities to programmes aiming at reducing the incidence of child and adult morbidity and mortality resulting from water-related diseases such as diarrhoea, schistosomiasis and Guinea worms;

(d) Increase attention to the formulation and implementation of strategies for enhancing women's participation, including co-ordination of activities with community participation and non-governmental organizations, especially women's groups, and establish mechanisms through which agencies can support the co-operation and participation of women and of the community in the planning and delivery of services, and in the education of the users in the proper use and maintenance of the facilities;

(e) Review plans and develop strategies and mechanisms to increase collaboration with non-governmental organizations in the planning and implementation of Decade activities;

(f) Ensure that Government agencies formulate and implement programmes for water quality and set standards for the adequacy and safety of physical facilities.

93. The Mar del Plata Action Plan and the resolutions subsequently adopted by the General Assembly and Economic and Social Council contained a number of recommendations concerning the role of the international community in support of the Decade. In keeping with these earlier recommendations, the Committee may wish to urge the organizations of the United Nations system, as well as other international, bilateral and non-governmental organizations:

(a) To focus their efforts and resources on the poorest countries where the need for water supply and sanitation is greatest;

(b) To give special consideration to the long-term needs of the countries of Africa south of the Sahara by increasing support for clean drinking water and sanitation programmes;

- (c) To continue to enhance co-ordination of their technical co-operation activities at the global and national level, and to support the role of the UNDP resident representatives as focal points for the Decade at the country level;
- (d) To continue efforts to expand the amount of external assistance and to make more effective use of those resources, particularly by:
- (i) Assisting Governments, upon their request, to conduct sector assessments and to prepare priority programmes and sound project proposals;
 - (ii) Providing support to Governments that may wish to organize consultations on their Decade programmes with the major donor agencies through round-table meetings or separately;
 - (iii) Increasing substantially the amount of concessional assistance provided to the poorest countries, and seeking new and innovative approaches to stimulate affordable investment financing;
 - (iv) Rationalizing and standardizing to the extent possible the requirements and conditionality of assistance for water supply and sanitation projects;
- (e) To assist Governments, upon their request, to achieve more cost-effective project designs through the application of appropriate technology in pilot and large-scale operational programmes, and through the training of planners, engineers and technicians in aspects of appropriate technology;
- (f) To ensure, on a project-by-project basis, that investments in physical facilities are accompanied by such investments as may be necessary in technical assistance for institutional and manpower development and in components such as health education and communications support;
- (g) To continue public information efforts in order to raise public consciousness concerning the critical needs for water supply and sanitation in developing countries and to generate public support for national and international efforts during the second half of the Decade.

Notes

1/ See Report of the United Nations Water Conference, Mar del Plata, 14-25 March 1977 (United Nations publication, Sales No. E.77.II.A.12), chap. I, para. 15.

2/ Ibid., chap. I.

ANNEX I

Countries reporting the preparation or establishment
of national Decade plans by 1983

Country or territory	Plan prepared	Year plan prepared	Plan in preparation
<u>Africa</u>			
Benin	X	1983	-
Botswana	-	-	X
Burkina Faso	X	1982	-
Burundi	X	1983	-
Central African Republic	-	-	X
Congo	X	1983	-
Djibouti	-	-	X
Egypt	-	-	X
Ethiopia	-	-	X
Gambia	-	-	X
Ghana	X	1982	-
Guinea	X	1980	-
Kenya	-	-	-
Lesotho	-	-	X
Malawi	-	-	X
Mali	-	-	X
Mauritania	X	1983	-
Mauritius	-	-	X
Morocco	-	-	X
Mozambique	X	1983	-
Niger	X	1983	-
Rwanda	X	1981	-
Senegal	X	1981	-
Sierra Leone	X	1981	-
Somalia	X	1983	-
Sudan	-	-	X
Swaziland	-	-	X
Togo	X	1983	-
Tunisia	X	1982	-
Uganda	X	1983	-
Zaire	X	1982	-
Zambia	X	1983	X
Zimbabwe	-	-	X

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Country or territory	Plan prepared	Year plan prepared	Plan in preparation
<u>Latin America and the Caribbean</u>			
Argentina	X	1982	-
Bahamas	X	1983	-
Barbados	-	-	X
Belize	-	-	X
Bolivia	X	1982	-
Brazil	-	-	X
Chile	X	1982	-
Cayman Islands	X	1983	-
Colombia	X	1982	-
Costa Rica	X	1982	-
Dominican Republic	-	-	X
Ecuador	X	1982	-
El Salvador	X	1982	-
Guatemala	-	-	X
Guyana	X	1982	-
Haiti	X	1983	-
Honduras	X	1982	-
Mexico	X	1982	-
Panama	X	1983	-
Paraguay	X	1983	-
Venezuela	-	-	X
<u>Asia</u>			
Bangladesh	-	-	X
Bhutan	X	1982	-
Burma	X	1983	-
Fiji	X	1980	-
Guam	X	1983	-
India	X	1983	-
Indonesia	X	1982	-
Kiribati	-	-	X
Lao People's Democratic Republic	X	1983	-
Macao	X	1980	-
Maldives	-	-	X
Malaysia	-	-	X
Nepal	X	1980	-
Niue	X	1983	-
Pacific Islands	-	-	X
Pakistan	X	1980	-
Papua New Guinea	-	-	X

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Country or territory	Plan prepared	Year plan prepared	Plan in preparation
<u>Asia (continued)</u>			
Philippines	X	1982	-
Republic of Korea	X	1983	-
Samoa	X	1981	-
Singapore	X	1980	-
Solomon Islands	X	1979	-
Sri Lanka	X	1980	-
Thailand	-	-	X
Tokelau	X	1983	-
Tonga	-	-	X
Vanuatu	X	1982	-
Viet Nam	X	1981	-
<u>Western Asia</u>			
Democratic Yemen	X	1982	-
Jordan	X	1982	-
Qatar	-	-	X
Syrian Arab Republic	X	1981	-
<u>Europe</u>			
Hungary	X	1983	-
Turkey	X	1982	-
Yugoslavia	X	1982	-

ANNEX II

Coverage reported by countries, 1970-1983

(Population in thousands)

Country or territory	1970				1980				1983			
	Water supply		Sanitation		Water supply		Sanitation		Water supply		Sanitation	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Afghanistan	325	18	1 293	69	521	28	-	-	-	-	-	-
	110	1	2 400	16	1 100	8	-	-	-	-	-	-
American Samoa	-	-	-	-	20 100	20 100	20 100	20 100	22 100	22 100	22 100	22 100
	-	-	-	-	12 100	12 100	11 92	11 92	7 64	7 64	11 100	11 100
Angola	-	-	345	83	1 020	85	480	40	1 550	90	498	29
	-	-	17	1	670	10	1 000	15	841	12	1 030	15
Argentina	12 700	69	16 200	87	14 977	65	20 544	89	18 446	72	23 672	94
	654	12	4 260	79	787	17	1 532	32	827	17	1 609	32
Bahamas	102	100	102	100	136	100	136	100	139	96	139	96
	8	12	9	13	-	-	0	100	-	-	-	-
Bahrain	169	100	-	-	-	-	-	-	-	-	-	-
	46	94	-	-	-	-	-	-	-	-	-	-
Bangladesh	520	13	100	-	2 600	26	900	1	3 200	29	1 800	2
	30 000	47	3 700	87	32 000	40	2 100	21	35 000	43	2 300	21
Barbados	100	95	105	100	79	100	-	-	80	100	-	-
	135	100	135	100	-	-	-	-	31	18	-	-
Belize	-	-	-	-	73	100	45	62	-	-	-	-
	-	-	-	-	-	-	55	75	-	-	-	-
Benin	346	83	-	-	413	26	760	48	-	-	-	-
	455	20	-	-	300	15	80	4	-	-	-	-
Bhutan	-	-	-	-	30	50	-	-	-	-	-	-
	-	-	-	-	60	5	-	-	157	14	-	-
Bolivia	1 551	92	433	25	1 728	69	916	37	241	78	1 116	40
	53	2	127	4	316	10	116	4	396	12	291	9
Botswana	35	71	-	-	-	-	-	-	-	-	-	-
	149	26	-	-	-	-	-	-	-	-	-	-
Brazil	41 300	67	45 480	85	67 009	83	25 900	30	77 540	86	29 890	33
	12 000	28	10 384	24	19 600	51	-	-	20 100	53	-	-

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Country or territory	1970			1980			1983				
	Water supply		Sanitation	Water supply		Sanitation	Water supply		Sanitation		
	Number	%	Number %	Number	%	Number %	Number	%	Number %		
Brunei	Urban	-	-	-	109	100	-	124	100	93	75
	Rural	-	-	-	72	95	-	78	95	80	98
Burkina Faso	Urban	140	35	195	49	255	27	20	13	-	-
	Rural	500	10	-	1 612	31	260	5	-	-	-
Burma	Urban	1 950	35	7 200	32	3 200	38	3 700	15	4 179	15
	Rural	2 995	13	2 521	45	3 700	15	3 150	38	-	-
Burundi	Urban	75	77	94	96	197	90	88	40	251	90
	Rural	-	-	-	-	799	20	1 393	35	938	22
Cameroon	Urban	900	77	-	-	-	-	-	-	-	-
	Rural	1 000	21	-	-	-	-	-	-	-	-
Cape Verde	Urban	-	-	-	-	108	100	37	34	83	99
	Rural	-	-	-	-	40	21	19	10	61	27
Cayman Islands	Urban	-	-	-	-	17	100	16	94	2 778	85
	Rural	-	-	-	-	-	-	0	0	-	-
Central African Republic	Urban	-	-	1 200	64	-	-	-	-	-	-
	Rural	-	-	600	96	-	-	-	-	-	-
Chad	Urban	200	47	29	7	-	-	-	-	-	-
	Rural	780	24	13	-	-	-	-	-	-	-
Chile	Urban	5 000	67	2 530	33	9 071	100	9 015	99	9 492	100
	Rural	250	13	185	10	355	17	-	-	394	18
Colombia	Urban	11 493	88	9 817	75	16 000	100	16 000	100	-	-
	Rural	2 680	28	800	8	7 110	79	370	4	-	-
Comoros	Urban	-	-	-	-	-	-	-	-	-	-
	Rural	-	-	-	-	-	-	-	-	-	-
Congo	Urban	278	63	34	8	313	36	147	17	441	42
	Rural	46	6	44	6	21	3	0	0	46	7
Cook Islands	Urban	-	-	-	-	2	100	2	100	9	100
	Rural	-	-	-	-	-	-	13	76	7	85
Costa Rica	Urban	657	98	442	66	1 096	100	1 019	93	1 365	99
	Rural	639	59	467	43	761	68	916	82	805	99
Cuba	Urban	4 258	82	2 927	57	-	-	-	-	-	-
	Rural	519	15	-	-	-	-	-	-	-	-

Country or territory	1970				1980				1983			
	Water supply		Sanitation		Water supply		Sanitation		Water supply		Sanitation	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Cyprus	Urban 250	100	250	100	311	100	311	100	343	100	343	100
	Rural 355	92	355	92	204	100	204	100	193	100	193	100
Democratic Kampuchea	Urban 868	79	889	100	-	-	-	-	-	-	-	-
	Rural 2 400	38	120	2	-	-	-	-	-	-	-	-
Democratic Yemen	Urban 334	88	-	-	539	85	446	70	540	73	509	69
	Rural 400	43	-	-	316	25	193	15	584	39	501	33
Djibouti	Urban -	-	-	-	137	50	118	43	160	80	150	75
	Rural -	-	-	-	11	20	11	20	40	40	18	18
Dominican Republic	Urban 1 225	72	1 073	63	2 330	85	691	25	2 778	85	134	41
	Rural 377	14	1 444	54	897	33	110	4	887	32	259	9
Ecuador	Urban 1 810	76	-	-	3 028	82	1 443	39	3 956	98	2 592	64
	Rural 244	7	-	-	745	16	651	14	899	21	1 096	26
Egypt	Urban 14 000	94	-	-	17 450	88	8 930	45	-	-	-	-
	Rural 18 000	93	-	-	14 540	64	2 280	10	-	-	-	-
El Salvador	Urban 986	71	917	66	1 281	67	1 524	80	-	-	-	-
	Rural 436	20	393	18	1 049	40	688	26	1 221	42	984	34
Ethiopia	Urban 1 500	61	1 655	67	-	-	-	-	-	-	-	-
	Rural -	-	1 800	8	-	-	-	-	-	-	-	-
Fiji	Urban 146	78	187	100	229	94	208	85	258	100	-	-
	Rural 50	15	293	87	260	66	236	60	200	48	-	-
Gabon	Urban 6	6	-	-	-	-	-	-	-	-	-	-
	Rural 1	-	-	-	-	-	-	-	-	-	-	-
Gambia	Urban -	-	-	-	94	85	-	-	-	-	-	-
	Rural 9	3	-	-	-	-	-	-	-	-	-	-
Ghana	Urban 2 127	86	-	-	3 015	71	-	-	-	-	-	-
	Rural 853	14	2 432	40	2 439	33	1 226	17	-	-	-	-
Grenada	Urban 24	100	-	-	-	-	-	-	-	-	-	-
	Rural 61	77	72	95	-	-	-	-	-	-	-	-
Guam	Urban -	-	-	-	42	100	-	-	46	100	46	100
	Rural -	-	-	-	64	100	64	100	69	100	69	100
Guatemala	Urban 1 597	88	-	-	2 403	89	1 215	45	2 877	90	1 534	48
	Rural 535	14	402	11	828	18	920	20	1 260	26	1 357	28

Country or territory		1970		1980		1983	
		Water supply		Water supply		Water supply	
		Number	%	Number	%	Number	%
Guinea	Urban	437	68	451	70	769	69
	Rural	-	-	60	2	90	2
Guinea-Bissau	Urban	-	-	-	-	29	18
	Rural	-	-	-	-	49	8
Guyana	Urban	229	100	220	95	247	100
	Rural	400	70	450	92	347	60
Haiti	Urban	-	-	-	-	613	48
	Rural	112	3	43	1	-	-
Honduras	Urban	688	99	450	64	782	50
	Rural	248	13	173	9	1 012	40
Hong Kong	Urban	-	-	-	-	4 719	100
	Rural	-	-	-	-	357	95
India	Urban	66 300	60	5 000	1	115 000	77
	Rural	25 000	6	94 000	85	162 000	31
Indonesia	Urban	2 200	10	4 250	4	17 700	35
	Rural	1 020	1	10 460	50	18 000	19
Iran (Islamic Republic of)	Urban	8 500	68	12 567	100	-	-
	Rural	2 000	11	8 500	48	-	-
Iraq	Urban	4 566	83	4 482	82	-	-
	Rural	300	7	20	-	-	-
Ivory Coast	Urban	916	98	220	23	-	-
	Rural	1 000	29	-	-	-	-
Jamaica	Urban	506	100	506	100	-	-
	Rural	647	48	1 249	92	-	-
Jordan	Urban	1 080	98	-	-	1 550	100
	Rural	742	59	-	-	444	65
Kenya	Urban	1 420	100	1 214	85	2 051	85
	Rural	240	2	4 453	45	2 055	15
Kiribati	Urban	-	-	-	-	14	93
	Rural	-	-	-	-	10	256
Kuwait	Urban	400	60	-	-	-	-
	Rural	-	-	-	-	-	-

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Country or territory	1970			1980			1983		
	Water supply Number	%	Sanitation Number &	Water supply Number	%	Sanitation Number &	Water supply Number	%	Sanitation Number &
Lao People's Democratic Republic	Urban	448	97	-	-	-	164	28	75
	Rural	1 000	39	-	-	100	653	20	139
Lebanon	Urban	2 100	95	-	-	-	-	-	-
	Rural	850	85	-	-	-	-	-	-
Lesotho	Urban	27	100	12	44	-	-	-	-
	Rural	9	1	100	10	162	-	-	-
Liberia	Urban	110	100	121	100	-	542	71	184
	Rural	67	6	100	9	211	279	20	279
Libyan Arab Jamahiriya	Urban	551	100	551	100	2 596	-	-	-
	Rural	599	42	769	54	584	-	-	-
Macao	Urban	-	-	-	-	313	-	-	-
	Rural	-	-	-	-	10	-	-	-
Madagascar	Urban	734	67	957	88	1 380	1 470	73	60
	Rural	45	1	-	-	500	690	9	-
Malawi	Urban	-	-	-	-	443	583	66	658
	Rural	-	-	-	-	1 995	2 807	49	-
Malaysia	Urban	2 975	100	2 975	100	4 130	4 859	97	5 021
	Rural	55	1	3 259	43	4 370	6 718	71	5 622
Maldives	Urban	-	-	-	-	-	-	-	2
	Rural	-	-	-	-	4	10	7	15
Mali	Urban	180	29	390	63	451	-	-	-
	Rural	-	-	-	-	8	-	-	-
Mauritania	Urban	86	98	88	100	283	370	80	18
	Rural	114	10	-	-	925	-	-	0
Mauritius	Urban	379	100	194	51	410	-	-	-
	Rural	130	29	449	99	536	-	-	-
Mexico	Urban	20 239	71	-	-	27 600	45 884	91	39 380
	Rural	5 770	29	2 600	13	10 300	9 961	40	2 988
Mongolia	Urban	280	58	-	-	-	-	-	-
	Rural	-	-	-	-	-	-	-	-
Mozambique	Urban	-	-	-	-	-	-	-	-
	Rural	-	-	-	-	-	-	-	-

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Country or territory	1970				1980				1983			
	Water supply		Sanitation		Water supply		Sanitation		Water supply		Sanitation	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Nepal	213	53	5	-	800	83	100	1	787	71	153	1
	10	-	55	14	900	7	160	16	1 658	11	180	16
New Caledonia	-	-	-	-	58	100	58	100	-	-	-	-
	-	-	-	-	14	18	52	65	-	-	-	-
Nicaragua	523	58	-	-	1 330	91	505	35	1 329	91	-	-
	170	16	90	8	125	10	-	-	-	-	-	-
Niger	111	37	30	10	286	41	252	36	320	41	284	36
	700	19	3	-	1 547	32	145	3	1 709	33	156	3
Nigeria	-	-	-	-	11 520	60	-	-	13 920	60	-	-
	-	-	-	-	20 820	30	-	-	22 300	30	-	-
Niue	-	-	-	-	-	-	-	-	3 100	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
Oman	-	-	33	100	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	11 464	77	1 700	12	17 000	72	10 000	42	12 812	78	13 550	53
	1 720	4	-	-	12 000	20	1 000	2	15 144	24	3 450	6
Panama	677	100	600	87	900	100	556	62	1 007	97	633	61
	308	41	520	69	602	65	261	28	279	26	-	-
Papua New Guinea	100	44	227	100	206	55	356	96	216	55	356	91
	1 600	72	110	5	264	10	75	3	277	10	95	3
Paraguay	187	22	131	16	448	39	1 091	95	603	46	1 219	92
	81	5	-	-	192	10	1 703	89	180	10	1 520	84
Peru	4 200	58	3 800	51	7 407	68	6 242	57	8 324	73	6 471	57
	500	8	1 000	16	1 210	21	24	0	1 314	18	30	0
Philippines	8 662	67	11 665	90	11 315	65	14 161	81	10 660	53	15 096	75
	5 060	20	10 000	40	13 034	43	20 486	67	17 634	55	15 000	47
Qatar	128	100	128	100	-	-	-	-	160	-	-	-
	24	75	5	16	-	-	-	-	20	-	-	-
Republic of Korea	10 979	84	7 660	59	21 800	86	25 400	100	-	-	-	-
	6 857	38	-	-	7 800	61	12 700	100	8 616	60	-	-
Rwanda	93	81	96	83	112	48	140	60	152	55	166	60
	2 300	66	1 800	52	2 700	55	2 500	50	3 235	60	3 235	60

Country or territory	1970			1980			1983		
	Water supply		Sanitation Number %	Water supply		Sanitation Number %	Water supply		Sanitation Number %
	Number	%		Number	%		Number	%	
Samoa	Urban	25	86	29	100	30	86	36	95
	Rural	-	-	68	100	100	83	115	94
Saudi Arabia	Urban	1 420	100	950	67	5 131	81	6 488	100
	Rural	2 410	37	700	11	575	50	1 200	68
Senegal	Urban	905	87	-	-	1 811	100	1 700	63
	Rural	-	-	-	-	79	2	1 000	27
Sierra Leone	Urban	282	75	-	-	284	31	622	61
	Rural	26	1	-	-	134	6	145	6
Singapore	Urban	1 736	96	1 812	100	1 936	80	2 502	100
	Rural	-	-	-	-	0	0	-	0
Solomon Islands	Urban	-	-	-	-	18	82	24	96
	Rural	-	-	-	-	20	10	100	45
Somalia	Urban	120	17	-	-	531	45	791	65
	Rural	300	14	-	-	207	5	900	21
Sri Lanka	Urban	1 290	46	2 151	76	3 040	80	2 550	76
	Rural	1 389	14	6 022	61	6 900	63	3 120	26
Sudan	Urban	1 150	61	1 834	100	2 610	63	4 351	100
	Rural	1 800	13	64	4	0	0	4 237	31
Suriname	Urban	-	-	-	-	100	100	150	100
	Rural	-	-	-	-	200	79	220	96
Swaziland	Urban	-	-	-	-	-	-	-	-
	Rural	-	-	-	-	-	-	-	-
Syrian Arab Republic	Urban	2 699	98	-	-	2 548	74	-	-
	Rural	1 746	50	-	-	1 533	28	-	-
Thailand	Urban	3 276	60	3 600	65	7 000	64	6 100	50
	Rural	3 000	10	2 500	8	15 000	41	26 000	70
Togo	Urban	244	100	10	4	170	24	490	68
	Rural	86	5	-	-	180	10	565	26
Tokelau	Urban	-	-	-	-	-	-	-	-
	Rural	-	-	-	-	300	19	2	100
Tonga	Urban	19	100	19	100	28	97	29	91
	Rural	36	53	68	100	65	94	62	90

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Country or territory	1970		1980		1983	
	Water supply Number	Sanitation %	Water supply Number	Sanitation %	Water supply Number	Sanitation %
Trinidad & Tobago	356 666	100 95	181 679	51 96	735 400	100 96
Trust Territory of the Pacific Islands	-	-	-	-	26 21	68 24
Tunisia	2 050 500	92 17	2 235 1 005	100 34	3 708 -	100 -
Tuvalu	-	-	-	-	-	-
Uganda	616 1 600	88 17	591 1 000	84 76	662 1 520	45 12
United Arab Emirates	-	-	-	-	-	-
United Republic of Tanzania	500 1 200	61 9	-	-	-	-
Uruguay	2 190 300	100 59	2 135 66	97 13	2 331 13	95 3
Vanuatu	-	-	-	-	-	-
Venezuela	6 920 1 285	92 38	- 1 535	- 45	- 2 427	- 65
Viet Nam	-	-	-	-	-	-
Yemen	155	45	-	-	14 000	31
Zaire	1 605 750	33 4	225 875	5 5	862 646	100 75
Zambia	995 645	70 22	159 550	12 18	1 866 1 046	65 33
					2 851 1 593	100 48