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DRAFT CHAIR'S TEXT

INTRODUCTION

1. As agreed by the Commission on Sustainable Development at its eleventh session, the discussions at the Intergovernmental Preparatory Meeting for CSD-13 focused on policy options and possible actions to address the constraints and obstacles in the process of implementation identified during the Review Year and contained in the report of the twelfth session (E/2004/29). The discussions were based on the outcome of the CSD-12 Review Session, reports by the Secretary-General and other relevant inputs.

2. In preparing this document based on the discussions, the Chair has focused on policy options and possible actions identified by delegations and other participants that can make a significant contribution to the implementation of water, sanitation and human settlements goals and targets as contained in Agenda 21, the Programme for the Further Implementation of Agenda 21, the Johannesburg Plan of Implementation, and relevant MDGs. Recognizing that different countries and regions have different needs and priorities and face different challenges, the document outlines a range of options that can be drawn on in developing strategies, policies and programmes relating to water, sanitation and human settlements. While the emphasis is on policy options and possible actions applicable to as wide a range of countries as possible, it is recognized that Africa, the least developed countries and the small island developing States face the greatest challenges in achieving sustainable development and in meeting the JPOI targets and the MDGs, so there is a particular focus on policy options and possible actions that could address their needs.

3. This document is organized into three main sections corresponding to the three themes, with cross-cutting issues considered as they relate to the themes, followed by a brief section highlighting the interlinkages among them.

4. The Chair has tried to reflect the variety of viewpoints and experiences of delegations and other participants in a balanced way, offering a wide variety of policy options and possible actions for consideration at CSD-13.

5. A number of policy options and possible actions presented in the section on water are also presented in the section on sanitation, reflecting the fact that the two themes are inextricably linked.

I. WATER

Introduction

6. Effective development and management of water resources and efficient and equitable provision of safe drinking water are central to poverty eradication, ecosystem protection and sustainable growth. An integrated and balanced approach can be most effective, addressing drinking water and sanitation together with water resource management.

7. Experience shows that the water and sanitation goals can be met and that there is a role for all partners: public and private; local, national and international; communities and individuals. While there are many commonalities in the challenges confronting countries, no single set of policies is applicable everywhere. Broad policy options at national and international level include strengthening capacities in integrated water resources management and water governance, improving water allocation, enhancing water use efficiency, expanding access to safe drinking water, protecting water quality, reducing water costs while improving cost recovery, implementing pro-poor policies, and strengthening monitoring systems at local and national level.

Improving access to safe drinking water in urban and rural areas

8. Including the water agenda in development strategies, including poverty reduction strategies (PRSs) and national sustainable development strategies (NSDSs), is considered to be a key means to demonstrate political commitment to achieving the goal of safe drinking water supply, as well as providing a policy framework to leverage national and international resources in support of this goal. It is important that PRS and NSDS processes remain participatory and nationally owned, with external development partners providing technical and financial support. Policy actions on water tend to be most effective when integrated with broader development planning processes and not seen as stand-alone.

9. Expanding access to safe drinking water in urban slums, peri-urban areas and small towns can be accelerated through a variety of measures, including expansion of the infrastructure network using low-cost approaches, improving security of tenure, encouraging alternative private operators and involving community-based organizations. Free minimum service, increasing block tariffs, and subsidies to low-income households, particularly for connection charges, are some of the actions that can help in expanding access to the un-served poor. Experience indicates that subsidies tend to be most effective and sustainable when they are well targeted and transparent. In rural areas, where the majority of the poor live, technical and financial support from government and local authorities for digging and maintaining wells or other water sources can help to expand access to safe drinking water.

10. In providing access to the poor, scaling up efforts may require shifting gears from a needs-based approach to a rights-based approach, which would generate political will and a resource allocation culture that puts the interest of the poor first. Priority areas of action could possibly include: documentation of best practices; indicator development; promoting policies and programmes supportive of the principles of the right to water.

11. End-user efficiency improvements provided or supported by water utilities can lower water costs, with benefits for low-income households, and reduce water losses. Moving from supply-driven approaches to demand management, in order to reduce unnecessary consumption and pressures on government capital budgets, is another option that has proven successful.

12. The public sector is generally the largest provider of water services in most countries. Yet public water utilities in developing countries are usually inadequately funded, poorly managed and inefficient. One approach to these problems can be reforming public utilities to improve efficiency in line with modern management practices, including strengthening of their financial capacities.

13. Private sector provision of water services could be promoted by enhancing private sector confidence and trust in the state's governance structure through implementation of sound and stable legal and fiscal frameworks. Governments may also promote the accountability of private sector contractors by promoting public involvement in monitoring and evaluation of system performance. However, while private sector service providers can be made more accountable for providing good service at reasonable cost, they generally cannot bear the burden of subsidizing consumers, which remains a public responsibility. Participation of small-scale providers in provision of water services can also be encouraged by improving their access to credit and creating a supportive regulatory environment. Experience shows that support to small scale providers encourages entrepreneurship and job creation that are important pillars of development.

14. Small-scale water systems are an option for tapping groundwater resources in small and medium-sized towns, as well as rural areas. Education and training of communities in the operation and maintenance of these systems could make them sustainable. Development of local enterprises for simple manufacturing of equipment and parts would be important to keep the systems functional.

15. The sustainable development and management of groundwater resources is a critical element of water resource management in many countries. However, sustainable use of groundwater resources would require regulatory regimes to control aquifer depletion and protect water quality, for which monitoring and enforcement capacities would need to be developed or enhanced.

16. Rehabilitation of existing but inefficient or deteriorated water supply systems, together with planning and construction of new systems, can expand access to safe drinking water. More capital intensive options could include building water reservoirs to ensure reliable water supplies, with appropriate environmental safeguards in place. Desalination of salt water is another capital intensive option, which is used particularly in water-scarce areas and for high-value uses. Point-of-use household water treatment systems, together with safe water storage, can provide safe drinking water from unsafe water sources. Rainwater harvesting is also widely employed as a relatively low-cost option, both for household use and for small-scale irrigation.

17. Decentralization of water management and devolution of decision-making power to local authorities and community-based institutions such as water committees, supported by capacity building programmes, has proven successful in many countries in addressing local problems and reducing the costs of water services. Sustainability and affordability of water supply services would also be enhanced by encouraging user participation in the construction of water systems, for example through in-kind contributions.

18. Training of managers and technicians in the fields of management, operation and maintenance of water supply and sanitation systems is important to their effective operation. Tapping local and indigenous knowledge can contribute to technical designs and management arrangements suited to local circumstances. Provision of education to girls and women at all levels on water issues can promote more efficient water use and water resource management.

Preparing integrated water resource management plans and creating an institutional and policy framework

19. While integrated water resource management provides an integrated framework for addressing water issues, countries will want to tailor integrated water resources management plans to their own particular water management needs and objectives. It would be important to develop water legislation and regulations to manage competing water demands at the river basin, catchment, aquifer and local levels. Experience shows that water management, including protection of water quality, is more effective if water and sanitation issues are dealt with in an integrated manner. Options to advance the integrated water resources management process could include market-based mechanisms and a combination of management by catchment and management by region.

20. Acknowledging the major role women play in water resource management, the mainstreaming of gender issues, particularly in the form of full involvement of women in program and project development, implementation and evaluation, could make an important contribution to sound water resources management. A variety of tools such as gender-disaggregated data, gender analysis, gender-responsive budgeting, gender-sensitive monitoring and evaluation systems and gender-sensitive indicators have proven useful. Improving water and sanitation facilities in schools could help in reducing the current gender gap in school enrolment.

21. Developing sound water policies and plans would be greatly facilitated by comprehensive water information systems, including surveys and monitoring networks at national and basin levels. Sustainability of monitoring functions could be promoted by decentralizing management.

22. Experience suggests that a variety of approaches can be used to prepare integrated water resources management plans, including a more comprehensive approach that covers basin-wide water management and investment, or an incremental approach focusing on key priorities in accordance with capacities and resources. Key elements of a systematic integrated water resource management process may include the following actions: (a) establishing a national mechanism for the preparation of the plan, for example an inter-ministerial committee; (b) aligning national water management objectives and priorities with national development

programmes and translating international commitments into the national context; and (c) strengthening national capacities, as required, to prepare the plan. Countries facing difficulties in meeting national or international targets may need financial, technical and capacity building assistance.

23. Management of trans-boundary water resources could be assisted through bilateral, regional or sub-regional arrangements, with support for capacity building from international financial and other institutions, using integrated water resource management as a reference. Sharing mutual benefits of such cooperation, and disseminating information on those benefits, could help in promoting dialogue on cooperative agreements. Cooperation could also be enhanced through the strengthening of existing river basin organizations and agreements.

Enhancing water use efficiency and managing competing uses

24. Economic instruments including demand management measures could play an important role in promoting efficient water use. Economic incentives for efficient water use, for example, could be an integral part of water supply expansion projects. Many countries have successfully used water tariff structures to promote water conservation and discourage waste, while meeting the needs of the poor. Reforming subsidies that encourage unsustainable water use could encourage water conservation and investments in water-saving technologies and practices. Water demand management policies could also be used for reducing the wastewater volumes and required investment in sewerage.

25. In some countries, payment for environmental services, for example to owners of upstream forests or downstream wetlands, has led to improved management of water resources at relatively low cost. Providing economic incentives to farmers and industries, for example in the form of low-interest credit, tax relief and subsidies, could encourage investments in water conservation, low-cost wastewater treatment, soil conservation and other land management practices.

26. Water scarcity could be addressed through modern water conservation techniques in agriculture (such as drip irrigation, on-farm water management, lining of watercourses and canals etc.) and through more traditional techniques (such as rainwater harvesting). One innovative technique is the use of underground dams to capture water flowing in shallow aquifers.

27. Water conservation techniques and practices could be promoted and accelerated through mechanisms such as information exchange and dissemination, technical assistance, and training, as part of broader efforts to promote sustainable consumption and production. Also, awareness raising, education, and extension services for farmers are important for improving overall water use efficiency and productivity. Other options include reuse of treated wastewater and use of brackish waters for appropriate crops and reducing leakage from water conveyance systems.

28. Strengthening research and development and dissemination of new technologies are also important avenues for improving water productivity and efficiency in water consuming sectors.

Scientific research and technical development in the field of desalination and wastewater treatment, in particular, could help overcome the constraints of water scarcity.

29. South-South co-operation may be promoted as a tool for sharing experiences, best practices and technological solutions. Options could include strengthening of co-operation through the technical cooperation among developing countries (TCDC) facility and similar mechanisms and trilateral, or triangular, co-operation. Options for North-South environmental technology transfer on a preferential basis could include waste water treatment, water conservation, and desalinisation. Public-public partnerships are another option for technology and knowledge transfer.

Water quality, ecosystem management and disaster prevention

30. Water quality improvements could be realized through a variety of options: treatment of municipal, industrial and agricultural wastewater; public awareness-raising; application of the polluter-pays principle for control of pollution and excessive use of fertilizers and pesticides; environmental impact assessments; and promotion of cleaner technologies. The Global Plan of Action for the Protection of the Marine Environment from Land-based Activities is seen as an important instrument for that purpose.

31. Freshwater quality depends on water-related ecosystems, including mountains, forests, wetlands and soils, all of which play an essential role in regulating flows and protecting water quality. Options include improved ecosystem management, rehabilitation of degraded ecosystems, and wetlands protection. Multiple benefits would accrue to human health, poverty eradication, food production and protection of biodiversity. The multilateral environment agreements (MEAs), including the Ramsar Convention, are important elements in international cooperation in developing and protecting water resources.

32. Experience suggests that the effects of disasters, including water-related disasters such as floods and droughts, can be mitigated by reducing vulnerability, conducting risk assessments, improving disaster management systems, establishing early warning systems, raising awareness, and using traditional and indigenous knowledge.

33. Protection and management of ecosystems that provide water storage and coastal protection could also reduce risks and impacts from natural disasters such as floods and tsunamis. The outcomes of the recent World Conference on Disaster Reduction (Kobe, January 2005) can support national and regional programmes and strategies for risk-reduction and disaster management.

Strengthening monitoring and evaluation

34. Monitoring, assessment and reporting can be approached in a variety of ways ranging from national level voluntary mechanisms to more institutionalized global arrangements. National level efforts could be strengthened through capacity building for monitoring and evaluating water and sanitation services, establishing databases and developing monitoring indicators. Regional level activities could include regional monitoring and evaluation processes that would

assist countries in setting up national monitoring systems and liaising with global mechanisms. Global level actions could include strengthening the WHO/UNICEF Joint Monitoring Programme (JMP) and providing assistance to national and regional programmes.

35. In many countries, data collection and monitoring capacities need to be strengthened by developing or rehabilitating monitoring networks and strengthening national data management programmes.

36. Options for strengthened international cooperation on international water governance beyond CSD-13 include an intergovernmental process under the purview of CSD, with an SG report on progress serving as the basis for deliberations. A strengthened UN-Water is another option which could improve coordination among United Nations agencies while liaising with other global coordinating and monitoring mechanisms.

Financing water-related investments

Increasing the amount and impact of official development assistance

37. Greater efforts by donors to meet their commitment of 0.7% of their GNI as development assistance to developing countries could be a major contribution to financing the water and sanitation goals. Removing trade-distorting subsidies and providing access to markets, in particular through the Doha Development Round of trade negotiations, would contribute to creating free and fair trade arrangements with potentially large economic benefits to developing countries.

38. Debt relief, debt swaps or debt cancellation could offer important means for mobilizing resources for accelerating progress toward the water and sanitation goals. Increasing the share of grants in ODA could help ensure that investments in basic water and sanitation services are sustainable. International financing institutions could increase overall resource commitments to water and sanitation as well as reorient their portfolios, making use of dedicated financing initiatives for greater investment in rural and smaller settlements. Also, the Global Environmental Facility should be encouraged to use the opportunity of its pending replenishment to increase funding for water and sanitation, using its international water and land degradation windows.

39. Developing countries could attract increased ODA for the water sector by demonstrating a strong political commitment through incorporating water and sanitation goals into their poverty reduction strategies and national sustainable development strategies, where they exist. Strengthening national level coordination among donor programmes and projects, with the participation of national water sector institutions, has helped many countries identify funding gaps, make more effective use of external resources, and attract additional ODA resources. One option for improving donor coordination is through a lead-country approach.

40. Establishing national or regional project development facilities, possibly with donor support, could assist local authorities and community-based organizations in preparing bankable water and other infrastructure project proposals.

41. Better-targeted financial and technical assistance to developing countries, taking into account the special needs of small island developing States (SIDS), could help to offset their high costs of freshwater storage and distribution and other constraints and vulnerabilities that they face.

Mobilizing domestic and private resources

42. Governments will continue to be the main investors in the development of large-scale water infrastructure. For this they will need to turn to multiple sources of financing. Options include international debt financing, domestic tax revenue and user fees, borrowing in domestic capital markets, and public-private partnerships for water-related investments.

43. Water tariffs have been used extensively for recovering the costs of water infrastructure and services. Reductions in subsidies and improved cost recovery for those who can afford to pay can help finance operation and maintenance costs, ensure quality and reliability of service, and encourage water use efficiency. Each country could establish the proper mechanism and extent of cost recovery that best serves its own needs, priorities and culture, recognizing that no one size fits all.

44. Mobilizing community-level and household resources can make an important contribution to local water investments in informal settlements and peri-urban and rural areas.

45. Micro-credit schemes and revolving credit funds could be used to develop community-based water supplies and services.

46. An option for mobilizing domestic resources for water investments is the establishment of local, national or regional funding mechanisms such as national water funds, the ACP-EU Water Facility, and the African Water Facility. Other innovative financing mechanisms include credit guarantees, revolving funds, and issuance of municipal bonds. Development of capital markets needs to be supported through a series of reforms at various levels. Establishing clear and comprehensible municipal accounts, independently audited with results published, would help municipalities gain access to capital. Assistance in capacity building could help municipal authorities in laying the groundwork for accessing capital markets.

47. Local water authorities and management bodies could be empowered by giving them decision-making powers and financial autonomy, strengthening their capacities to improve water pricing structures, and developing and using alternative financial instruments to generate investment resources.

48. Public-private partnerships have been promoted by some countries to mobilize public and private resources together, but the scope for increasing resource mobilization by such means remains uncertain. Such approaches may be more effective if implemented in a transparent and

accountable manner, for example with regular performance-based, publicly available progress reports. In addition, incentives may be needed to provide training and knowledge transfer, since ultimately the local partners should be able to operate the systems on commercial lines.

49. Evaluating the economic, social and environmental costs of inadequate provision of clean water and sanitation, and the economic benefits of proposed solutions, might help persuade governments to mobilize and allocate more resources in support of the water and sanitation goals.

II. SANITATION

Introduction

50. The WSSD recognized that sanitation is an important priority in its own right. Countries are committed to achieving the JPOI target on sanitation, which supplements the MDG target on access to drinking water. The importance of sanitation to effective management of water resources and protection of water-related ecosystems was emphasized.

National priorities, policies and institutions

51. Broad support was expressed for the need to prioritize, institutionalize and adequately fund sanitation efforts at both the national and international levels. Among the policy options presented were: establishing a rights-based approach to provision of sanitation; mainstreaming sanitation plans and policies within integrated water resource management plans and into national sustainable development strategies and poverty reduction strategies; including sanitation as a separate item, or focus, in national budgets; enacting a national-level policy on sanitation that ensures coordination among ministries with responsibility for sanitation and hygiene issues; establishing an institutional 'home' for sanitation at the national level.

52. Experience has shown that sanitation coverage can best be expanded through a multi-stakeholder approach to planning and implementation, ensuring that systems are economically viable, socially acceptable and environmentally friendly, using appropriate technology and financing modalities. Elements for a policy framework could include: goals and targets for sanitation access, water quality, and environmental protection; cost recovery targets and mechanisms; subsidies or other measures to ensure affordable access by the poor; assignment of responsibilities for service provision and monitoring of water quality; provisions for resource mobilization and capacity building; regulations on environmental impact assessments for sanitation and waste-water treatment facilities; and building codes requiring sanitation facilities in newly constructed housing and building stock.

53. National policies and programmes for improving sanitation can benefit from sharing experiences with other countries, particularly among countries with similar situations, for example sub-Saharan Africa and small island developing States (SIDS).

54. The question of an institutional home for sanitation is an international as well as national issue, as sanitation does not have a strong "champion" within the international institutional

architecture. Options that were discussed for promoting international cooperation on sanitation include strengthening the mandate of UN Water; according equal status to water and sanitation within UN Water; internet-based networks for information sharing on best practices and lessons learned; and regular international "practitioners' fora."

55. Decentralized provision of sanitation services is standard practice in many countries and a goal in others. National governments can support successful decentralized provision in a number of ways, including through: ensuring a strong enabling environment for resource mobilization and efficient operation of local water and sanitation utilities, whether publicly or privately owned; establishing a national policy that provides financial assistance to local authorities for construction of waste-water treatment works; ensuring that local authorities have adequate authority and capacity to mobilize resources for sanitation infrastructure investments; providing support for capacity building to local authorities and entities responsible for sanitation delivery, including in the areas of planning, budgeting, administration, working with community-based organizations, and monitoring and enforcement.

56. Local authorities could be supported through national and international programmes of capacity building, including training in formulating and negotiating contracts, financial administration and cost recovery mechanisms, community involvement and accountability. Regional and international networking among local authorities and CBOs involved in sanitation delivery can be further strengthened, in particular through effective internet-based applications.

57. Integration of emergency sanitation measures into disaster preparedness and mitigation policies and plans could help avert epidemics of waterborne diseases when large numbers of people are displaced by disasters or conflicts. Particular attention could be given to the security of women and other vulnerable groups.

Responding to sanitation needs in urban and rural areas

58. Because of the rapid pace of urbanization, and the growth of informal settlements and slums, there is an urgent need for governments to play a prominent role in designing and implementing sustainable sanitation systems. A policy option to complement that role is building partnerships with local authorities, CBOs, NGOs and the private sector, particularly small-scale service providers, to scale up sanitation initiatives.

59. A public-private partnership approach that has allowed for rapid service expansion is franchising, wherein a large national company licenses its sanitation service delivery model and associated technology and management system to local entrepreneurs who become franchisees. Such franchises may cover local sanitation network extension, sludge removal and disposal, sewage collection and treatment and other service delivery. Scale economies in training, procurement and operation and maintenance are key attractions of this approach.

60. Planning in anticipation of urban growth could warrant investment in large-scale sanitation and sewerage systems. Institutional and technical capacity building may be required to manage and maintain large-scale infrastructure projects. Local authorities could be provided with

financial and technical assistance for large-scale modern sanitation and waste-water treatment works from a number of different sources.

61. Faced with potentially huge investment requirements, a phased approach is one option, constructing the sewerage network in the first phase, followed by installation of sewage treatment plants within an agreed timetable. Another option is to subdivide large urban areas into smaller sanitation systems that are technically and financially manageable.

62. While high-density urban settlements generally require sewerage networks and waste-water treatment facilities, in low-density settlements on-site sanitation such as septic tanks with sludge removal may be an option with significantly lower costs.

63. When planning urban sewerage systems, governments and local authorities may choose to subsidize household connections to avoid underutilization. For the neediest households, financing arrangements for provision of in-house sanitation fixtures could also be considered, for example through microcredit schemes or low-interest loans. Targeted subsidies for high priority public sites such as schools and health centres were cited as an option.

64. The active involvement of poor people in infrastructure and service planning through community-based organizations is an approach that has proven effective in ensuring that solutions meet local needs.

65. Where charges for sanitation services are included in water charges, services for poor households, including sewer connections, could be cross-subsidized from progressive water charges. Where sanitation fees are separate from water tariffs, progressive fee structures could support cross-subsidization of sewer connections for the poor. Subsidies for sanitation services and sewer connections, whether direct or cross-subsidies, could be justified in terms of the public health and environmental benefits from widespread use of sewerage and waste-water treatment.

66. In rural areas, most sanitation investment, usually for latrines or septic tanks, is undertaken by individual households. In this case, public health education and hygiene awareness raising, including through mass media, could create demand for sanitation services.

67. Community-based organizations (CBOs) and NGOs could act as catalysts for improved hygiene and sanitation in rural communities, and governments could assist in training local suppliers of sanitation fixtures and services. CBOs and NGOs can identify and demonstrate effective and affordable techniques at the community level, and governments can support scaling up successful models. Among the technology options for rural sanitation, for example, dry latrines conserve water, offering particular benefits in arid or drought-prone areas.

68. Rural sanitation could also be improved through strengthening health extension services. Drawing on local knowledge could help in choosing technologies that are suitable from both an environmental and cultural perspective.

Hygiene education, awareness raising and community participation

69. Strategies for conveying key sanitation and hygiene messages – e.g., about hand washing – and for promoting sanitation solutions have proven effective when they are culturally and gender sensitive. Hygiene education, both formal and informal, can be more effective when combined with demonstration projects. A particularly effective demonstration effect has been the provision of sanitation facilities in schools, to complement health and hygiene education in the school curriculum. One policy option for this purpose would be to set specific targets for the provision of gender-segregated school sanitation facilities. Providing separate sanitation facilities for girls and female teachers in schools has been used effectively to encourage girls' school attendance, especially in the adolescent years.

70. Education campaigns can also be used to raise awareness of the importance of sanitation and waste-water treatment for protecting soils, wetlands, aquifers and groundwater resources, and to improve knowledge and public acceptance of the reuse of treated waste water for applications that do not require potable quality water standards.

71. Ensuring the participation of women in community decision-making processes, and in the planning and implementation of sanitation improvement initiatives, can increase the effectiveness and sustainability of such initiatives. Both women and men could be involved in selecting the location and technology of such facilities. Women can also be engaged in the design, construction, operation, maintenance and management of sanitation systems, and as small-scale service providers. The role of women could be enhanced through appropriate education, training and capacity building, including on-the-job training. In view of women's role in household sanitation and hygiene, awareness raising campaigns can be effective when targeted to this audience, mobilizing women to spread the sanitation and hygiene message.

72. The experience of workers' organizations in promoting occupational health and safety, including through worker education and awareness raising, could provide valuable lessons for improving sanitation in the workplace.

73. Improved sanitation and hygiene practices could be encouraged by setting targets and providing incentives to communities to meet them (as with the 'zero open defecation' initiative in India). Access to sanitation services for the poor could also be expanded through dedicated comprehensive programmes, such as 'Total Sanitation Campaigns.' The Dakar Roadmap resulting from the First Global WASH Forum offers another useful model for developing countries to meet the sanitation goals.

74. A holistic approach to sanitation could include measures for changing attitude and behaviour as a complement to investments in sanitation facilities and infrastructure. Treating sanitation as both a right and a civic responsibility is an approach that can help shape both individual behavior and community action for improving sanitation. While hygiene education and awareness raising are often continuing processes requiring long-term donor and government commitment, they can catalyze private demand for sanitation services, thus leveraging household and community sanitation investments.

75. Household surveys, including consideration of the needs of women, children, the poor and other vulnerable groups as users, can assist in identifying their specific sanitation needs and preferences among different technologies and service options. Regular surveys can help in assessing the effectiveness of service delivery and how needs and preferences are evolving.

Waste-water treatment, recycling and reuse

76. Technical options for waste-water treatment range from capital-intensive conventional treatment systems to alternative systems with lower capital costs. Among the low cost waste-water treatment options available are anaerobic treatment systems, which have the advantage of simple construction and low-cost maintenance. These include: biodigester septic tanks for treatment of domestic sewage; anaerobic pond systems for treating agricultural processing wastes; and anaerobic sludge reactors for the treatment of food processing waste water. Septic or soakage pits can be used for secondary treatment.

77. Treated waste water and excreta can be considered as a valuable resource with the potential for reuse, and in some cases for sale, with the revenues helping to recoup treatment costs. Ecological sanitation (ecosan) approaches employed in a number of countries are based on this approach. Further research, however, may be necessary to assess potential health impacts and the economics of reusing treated waste water. For reuse on food crops, waste water may require advanced tertiary treatment, which can be substantially more costly than the secondary treatment needed for safe discharge into water courses or other less sensitive uses.

78. Expanded international cooperation, including South-South and North-South cooperation and exchange of information on good practices in sanitation and wastewater treatment, as well as technology transfer, management models and adaptation of technologies to local conditions, could contribute to more cost-effective sanitation. Donors could provide financial support for such cooperation.

79. Beyond waste-water treatment options, numerous governments have adopted policies to reduce waterborne waste discharges through a combination of water quality and effluent standards, environmental impact assessment requirements, and effluent permits and charges based on the polluter pays principle. All these approaches call for effective monitoring at relevant levels.

80. Sanitation projects could benefit from arrangements under various multilateral environmental agreements, such as the Clean Development Mechanism (CDM) of the Kyoto Protocol, which provides carbon credits for improved sewage treatment systems with methane capture. Using waste water to irrigate tree plantations is another CDM-relevant application that could also create employment opportunities.

Monitoring

81. Most countries recognize the need to improve monitoring capacity and reporting processes in order to ensure the collection of reliable data for monitoring progress on sanitation goals and targets. Information networks can be used to make the data widely available.

82. Monitoring of sanitation services could be made more effective through support for community-based and participatory monitoring and assessment schemes to complement national and international monitoring programmes. The World Bank's Public Expenditure Tracking System could be used as a model for monitoring the performance and accountability of sanitation systems. Donor technology transfer and financing for monitoring networks could contribute to the development of monitoring systems in developing countries. If adequately resourced, the international scientific and technical community could provide training to those responsible for implementing monitoring programmes. Accountability could be promoted by encouraging the media and civil society to report on the results of monitoring, particularly on serious transgressions of water discharge standards.

Financing

83. Undertaking and publicizing studies of the benefits of sanitation for health, productivity, ecosystem services and other aspects of sustainable development could assist in mobilizing financial support from central government agencies for investments in sanitation.

84. Sanitation services could be improved by directing domestic resources and donor support to areas of greatest need and greatest impact. This could involve a combination of targeting the sanitation needs of the poor and increasing support for hygiene education, which can leverage domestic sanitation demand and investment. Governments may be able to mobilize funding through debt swaps, where donors exchange debt for local currency investment in environmental protection, such as waste-water treatment. This is one of a number of options for relieving external debt burdens in poor countries, including debt cancellation, in order to free resources for investments in essential infrastructure and services.

85. It may be possible to improve the effectiveness of sanitation and hygiene programmes by shifting some funding from sanitation facilities and infrastructure, to recurrent costs of operation and maintenance, monitoring costs, and the costs of hygiene information and education, which have often been relatively neglected in donor and national government budget allocations.

86. If local authorities and community-based organizations are to undertake a sizeable share of the investment in sanitation infrastructure, national governments could facilitate local resource mobilization where mechanisms are not already in place. Revenue transfers from central government to local authorities are one option. Specific initiatives to support water and sanitation investments could also be considered, such as partial capital grants or loans to municipalities for investing in sewerage and waste-water treatment facilities.

87. National governments may also be able to enhance local authorities' direct access to capital markets, domestic and international, by granting authority to municipalities to issue

infrastructure bonds. Loan guarantee programmes could help to secure access to capital markets for investments in sanitation, whether for households, community-based organizations, or local authorities. National governments could also facilitate local authorities' access to donor support and other international finance by aggregating loan demands of multiple localities into a common borrowing facility, realizing economies of scale, pooling risks, and enhancing bargaining power.

88. Another policy option would be to mobilize donor financial support for national or regional project development facilities that would provide seed capital, training and technical assistance to national and local authorities and CBOs in developing bankable project and programme proposals.

89. Full cost recovery for major sewage works – including capital costs – through user charges is often difficult if not impossible in many developing countries, especially where a high proportion of users are poor. Experience indicates, however, that recovering a share of operation and maintenance costs contributes to system sustainability. User or community-based organizations may be able to assume a share of operation and maintenance costs, providing that they are directly involved in management or other mechanisms of accountability. Communities may also be able to mobilize in-kind labour contributions for system construction and maintenance, and to pool savings for investments in sanitation infrastructure and other community infrastructure.

90. Microcredit schemes could play an important role in providing finance to households for investment in sanitation facilities. Incentives or regulations could encourage or ensure investments in sanitation as part of incremental home improvements. Microfinance may also be able to support small entrepreneurs in the business of providing sanitation services.

III. HUMAN SETTLEMENTS

91. An integrated approach to land use, housing development, the delivery of water and sanitation services, transportation infrastructure, education and health care facilities, and employment is essential for the effective planning and development of sustainable human settlements. A sound and coherent macro-economic policy framework, supported by effective and transparent laws and regulations, is critical to successful implementation of policies and programmes.

92. Sustained economic growth and poverty reduction are essential objectives of policies and actions to achieve progress in sustainable human settlements development. Integration of the informal sector into the formal economy could increase contribution of the informal sector to economic growth and poverty eradication.

93. Planning and developing human settlements in urban and rural areas in a balanced and mutually supportive manner is important, considering their social, economic and environmental interactions. Policies aimed at improving access for agricultural and non-agricultural

commodities from developing countries to international markets could promote economic growth in both rural and urban areas and boost employment and income generation.

94. Disaster risk mitigation and preparedness are integral to the planning of human settlements in countries prone to natural disasters. In order to address these problems, concerned international support is crucial. Countries facing influx of large numbers of refugees would benefit from technical and financial support to address this challenge.

Providing improved housing and associated services to the urban poor

95. Promoting pro-poor policies is important for improving access of the poor to adequate housing and to public services like water and sanitation services, which require inputs from the public sector. Pro-poor policies could be a means to engage the poor in city development and slum upgrading. Targeted measures to increase opportunities for education among slum dwellers could strengthen their role as agents of change and partners in slum community improvement.

96. In improving housing for the urban poor, Governments can assume two functions: facilitating housing provision and improvement by individuals and private entrepreneurs; and directly providing affordable housing to the poor. Public housing agencies could promote better housing by providing credit to the poor, who usually lack access to the formal housing finance market, through, for example, affordable mortgages and micro-credit schemes. Relaxation of overly restrictive land development regulations and building codes, particularly in slums and informal settlements, could facilitate investments in housing construction and improvement for low-income households.

97. Strategies and policies for creating and maintaining security of tenure for slum dwellers are central to improving their lives. Secure tenure has been considered an important precondition for residents of slums and informal settlements to have safe shelter and a safe living and working environment without fear of forced eviction. Residential licensing and land titling offer tenure arrangement that could be helpful in accessing credit. Promoting equal rights of women to secure tenure, including the right to hold legal contracts of tenure, inheritance and other acquisition of real estate would contribute to improving the lives of women.

98. Strengthening the role of local authorities involves both the decentralization of responsibilities and a corresponding transfer of resources. Policies to support municipalities with a good financial standing and favorable credit rating that have tried to meet some of their investment needs by tapping local bond markets could yield good results. Technical assistance may be needed in managing the complexities of successful bond issuance. Governments and international financial institutions could consider providing bond guarantees to those municipalities.

99. Public-private partnerships could be a useful tool for meeting the needs of the urban and rural poor for housing, education, transportation and services. Transparency in operation and mutual accountability could enhance the effectiveness of public-private partnerships . Interesting examples have been cited of partnerships in which a private developer was offered land at a lower cost, low-interest loans or loan guarantees in return for agreed activities of public interest.

100. The full participation of all relevant national and local stakeholders in planning and decision-making could contribute to effective implementation of sustainable human settlements goals and targets, but this participatory approach is a learning process. Setting rules to encourage various stakeholders to play roles that provide the best results is an option that Governments have at their disposal to facilitate productive multi-stakeholder processes. Participation of women and youth in decision-making could be enhanced through appropriate legislative and administrative measures.

101. Policies which improve the knowledge and technical skills of administrators and legislators responsible for sustainable urban development have been cited as being critical. Strengthening UN HABITAT's capacity to provide such assistance could be one option. The Mayors' Asia-Pacific Environmental Summit is an example of a knowledge forum in which city mayors and managers could share experience, identify achievable goals and commit to achieving them. Improving the capacity of urban planners and administrators for monitoring implementation of policies and programmes at the national and local levels is important.

102. Flexible land policies could facilitate cost-effective and productive use of land contributing to economic development and poverty reduction. Efficient land use management could be enhanced through computerization of land records and data. Establishing national urban observatories, which utilize satellite images for urban monitoring and planning, could facilitate this task. International support could assist assistance could improve access of developing countries to information technology.

Jobs creation and enterprise promotion

103. The use of labor-intensive technologies in construction and infrastructure development can provide job opportunities for low-skilled urban workers and may be used wherever these technologies are cost-effective and technically feasible. However, while these technologies score high marks in terms of employment creation in the construction and infrastructure sector, they may not always be the most efficient technologies. Labor absorption and job creation can also be facilitated through the establishment of on-site housing materials production activities.

104. The public procurement system could be a practical instrument in the hands of municipalities to tender contracts to local small-scale service providers. Procuring local materials and providing jobs to local people could be a means to stimulate pro-poor economic growth. Community contracting could also be a promising approach for providing 'last mile' connections of human settlements to public infrastructure like water and sanitation. Public procurement has been employed to advance social equity objectives, as for example with special consideration given to businesses owned by certain disadvantaged groups or targets for women's employment.

105. Strengthening the informal sector can play an important role in job creation for low-income groups. A gender- and youth-sensitive enabling legislative framework could support the creation of employment and entrepreneurial opportunities in the informal sector, with a particular focus on these two groups. People-centered social and economic policies aimed at employment

creation in slum improvement programs can be useful tools for sustainable urban developing. Promoting programs that match skills, training and apprenticeships for urban youth is important to improve their access to decent jobs in local and global labor markets. Devising programs that respond to demands for skills in the use of information and communication technologies could be particularly important both for youth and women – who may be able to employ such technologies for home-based income generating activities.

106. Assisting young men and women in finding employment opportunities is of great importance in many developing countries due to persisting high unemployment rates among the urban youth. Education, vocational training to develop business skills, on-the-job training and mentoring are useful options to improve access of young people to decent jobs and to provide a basis for matching skills to the demands of the urban labor market. Investing in young men and women in starting new businesses is a good investment in the future. Policies which address the special needs of women and youth deserve particular attention.

107. Capacity building of small and medium-sized enterprises could be an important element in enterprise promotion and economic and social development. It allows small and medium-sized enterprises to absorb new technologies that increase efficiency and productivity, and helps improve employment opportunities and labour conditions. Policies which support capacity building in product development, preparing business and marketing plans, book-keeping, financial management and developing marketing strategies could strengthen the competitiveness of small and medium-sized enterprises. There can be a role for government programs to assist small and medium-sized enterprises with national and international market prospecting and to involve them in service delivery chains and maintenance and repair schemes for public facilities.

108. Governments and local authorities could assist in creating employment opportunities and in enterprise formation in the vicinity of informal settlements through appropriate land development policies and infrastructure investments. Attracting formal enterprises to locate their operations in close proximity to informal settlements – e.g., through creation of enterprise zones -- could boost local employment and generate positive multipliers for a range of local businesses.

Developing finance institutions and financial products suitable to the needs of the urban poor

109. Mobilization of local financial resources is a key element in implementing policies for housing and public services. Municipal funds to support sustainable urban development could be established. "Green Municipal Funds" and other revolving funds could provide grants and loans for feasibility studies and investment in innovative projects. The "Township concept" or metro approach that could bring together the various communities in a metropolitan area, allowing them to broaden the revenue base, pool finances, strengthen support networks, build common infrastructure and coordinate planning, were cited as options that merits further exploration.

110. Innovative public-private funding arrangements (with public seed money leveraging commercial contributions) can be used to finance water and sanitation infrastructure, although negotiating cost-recovery arrangements for the private sector participants that are acceptable to all parties and sustainable can be difficult. Similarly, government could provide seed capital to

revolving funds for use in site upgrading, provision of mortgage loan insurance to vulnerable groups, and other aspects of shelter provision. Community-led infrastructure financing facilities are another option. Donor financing and property taxes may be options to provide supplemental capital resources to such funds.

111. Innovative ways of harnessing the domestic capital markets for pro-poor development include the use of appropriate risk-sharing mechanisms to reduce the costs of lending in slum communities as well as the development of bankable investment projects, possibly with support from donor-financed national or regional project development facilities.

112. Targeted and transparent subsidies have been employed successfully to meet housing and service needs of the poor that cannot be met by the market. Policies and measures could be adopted to promote such subsidies as a catalyst to attract finance from other sources or to promote the creation of enterprises. They can take the form of direct subsidies, reduced interest rates or reduced costs for acquiring land. Partial loan guarantees from government and donors to support capitalization of mortgage lending institutions that serve low-income borrowers could be a promising option. Another would be for government or donors to provide home loan insurance in order to encourage housing finance institutions to offer mortgages to otherwise not creditworthy low-income borrowers on affordable terms.

113. International development partners could strengthen their assistance to developing countries in financial capacity building in order for developing countries to access financing. For instance, even creditworthy municipal authorities could benefit from assistance in meeting the requirements of accessing bond markets. Local savings institutions (like credit unions) could be strengthened through training, capacity building, and support for use of computerized information systems. Community financial institutions such as micro-lending or housing development organizations can be assisted in financial management, budgeting, risk assessment and risk mitigation in order that their institutions are sustainable over time.

114. Increasing official development assistance remains an essential and continuing challenge. Reduction of debt-service burden can release domestic resources that can be allocated to slum upgrading or other urban developing activities. Options for lower debt burdens on governments of heavily indebted developing countries include debt cancellation and debt swaps for sustainable development. The Bretton Woods institutions could play a stronger role in meeting the financial needs of developing countries for implementing human settlements goals and targets.

IV. INTERLINKAGES AMONG WATER, SANITATION AND HUMAN SETTLEMENTS

115. The development of sustainable human settlements, including adequate provision of water and sanitation, is inextricably linked – as both cause and effect – to poverty reduction and other Millennium Development Goals and internationally agreed development goals, notably those in Agenda 21 and the Johannesburg Plan of Implementation. Provision of decent and secure shelter and of safe drinking water and basic sanitation are key contributors to household welfare. Where

people live in informal settlements without security of tenure, they may be deprived of access to credit to finance investments in home improvement, including clean water and sanitation; they may also have limited incentive where eviction is a constant threat; they also often lack access to the piped water and sanitation networks. These living conditions can in turn breed disease, causing high rates of infant and child mortality. Girls may miss schooling either because of water-hauling and other household chores or because of lack of suitable sanitation facilities at school, or both. Lack of water, roads, and other infrastructure can deter investment from such communities, limiting their access to attractive employment opportunities and so perpetuating poverty.

116. Integrated planning of human settlements development, including water and sanitation, based on multi-stakeholder participation is attracting growing interest and adherence as a promising option for addressing the challenges posed by rapid urbanization in the developing world. Still in an experimental phase in many developing countries, there is tremendous scope for experience and lesson sharing, facilitated by information and communication technologies.

117. Water and sanitation systems are literally the plumbing of human settlements. Their planning, design and layout, especially in rapidly expanding urban settlements of the developing world, would benefit enormously from early and close coordination with land-use planning and zoning, housing development, transport network planning, and planning processes of other network utilities. Adequate water and sanitation provision, together with hygiene education and efficient solid waste collection and disposal, are crucial to safeguarding public health in human settlements.

118. Water and sanitation have important commonalities and interdependencies that call for close coordination of plans between the two service areas. The interlinkages can pose acute challenges for water and wastewater management in arid and semi-arid areas, and also in small-island developing states. Where public utilities are responsible for supplying both water and sanitation services, some of the interdependencies can be addressed – for example, planning sewage and waste water treatment in consideration of the need for protection of water quality and drinking water sources. Even here, the national legal and regulatory framework would need to provide mechanisms for cross-jurisdictional cooperation and dispute resolution. Integrated water resources management plans could provide a broad framework to encompass not only water supply and waste water treatment, but also the development of other options like demand-side management and waste water recycling and re-use. The growing appreciation of water's value to maintaining healthy ecosystems and their services also calls for an integrated approach.

119. National sustainable development strategies could provide the policy framework for integrated planning of water, sanitation and human settlements, but ultimately the approach would have to be adopted and implemented at the local level. Capacity building and technical assistance, including strengthening of training institutions, could support implementation of integrated approaches.

120. Integrated planning and policy making at all levels would be enhanced by strong coordinating and consultation mechanisms between local authorities and community-based organizations and major groups. Intensive community consultation and involvement in planning

processes from the outset would reduce risks of costly planning mistakes and the creation of dysfunctional settlements. Ensuring full integration of informal settlements and their inhabitants into integrated planning processes would be a basic condition of success.

121. Women, who are generally the primary managers of household activities and leaders of change at the community level, can play a central role in integrated approaches to water, sanitation and human settlements. Active participation of women in planning and decision making, informed by a rich appreciation of the interlinkages among water, sanitation, housing, health, education and other aspects of family welfare, can significantly improve the design and implementation of integrated policies and programmes.

122. Mobilizing financial support for implementation of integrated human settlement plans and programmes could also take an integrated approach. Co-ordinated investments would be needed across a broad spectrum of projects with widely differing objectives, capital requirements and payback periods, from various infrastructure projects to site and housing development to the setting up of productive enterprises, often micro-enterprises and small-scale businesses. One option currently being piloted at global level that aims to mobilize and blend funds from pubic and private sources is UN Habitat's Slum Upgrading Facility. Another would be to extend loan guarantees that support international borrowing by domestic financial institutions specialized in urban infrastructure lending or low-cost housing finance. A further option would be to enhance the revenue raising powers of local authorities, their capacity to access capital markets.