Water Supply and Sanitation Collaborative Council (WSSCC)

Working Group on Urbanization (WG/U)

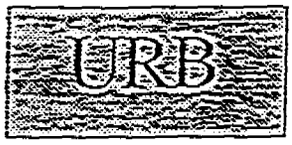
WG/U REPORT

Prepared by MAE/DGCS and CERFE

Adopted at the Rabat Meeting of the Council (September 1993)

COOPERAZIONE ITALIANA

With the support of the Directorate General for Development Cooperation (DGCS) Ministry of Foreign Affairs of Italy (MAE)



Presentation

The following is the final version of the Report of the Working Group on Urbanization (WG/U), adopted at the Rabat Meeting of the Water Supply and Sanitation Collaborative Council (7-10 September 1993).

The Rabat Meeting was the conclusion of the WSSCC action programme launched in the Oslo Meeting of September 1991. The so-called "Oslo Working Groups" (Country Level Collaboration, Urbanization, Operation & Maintenance, Applied Research, Information Management, Information, Education & Communication and Gender Issues) presented their final reports to the Council membership in Rabat. At the same meeting, it was decided to confer a WSSCC mandate to some specific follow-up activities to be undertaken by specialized institutions and interested members ("mandated activities"). It was thus agreed that the follow-up work of the Working Group on Urbanization should be undertaken in the framework of a new WSSCC mandated activity, whose tasks include the dissemination of WG/U findings and the gathering of feedback from the field, building on the information bank and on the network that have been established by the WG/U itself. The title of this mandated activity is "WSSCC Network on Services for the Urban Poor". UNCHS (Habitat), the Government of Italy, CERFE, USAID, the Environmental Health Project (formerly WASH) and WEDC (UK) form the operational "Core Group" of the Network

In addition, an alliance has been forged between the WSSCC Network on Services for the Urban Poor and the USAID/WASH Peri-Urban Network, which publishes the "Voices from the City" newsletter. The members of the Core Group serve in the newsletter's Editorial Board.

CERFE, the Rome research institution that performed the role of scientific and operational Secretariat of WG/U, will continue to manage and update the information bank and to gather feedback from the field. Experts and professionals interested in the activities of the network or who want to become part of it can contact CERFE for further information.

This Report is composed of three volumes. The first one is the "Executive Summary", containing a short description of the main issues and findings. The second volume contains the "WG/U Main Report", with the above mentioned issues and findings treated in greater detail. The third volume is the report of the discussion on Urbanization at the Rabat meeting, where the Executive Summary and Main Report were publicly discussed and adopted.

WG/U Report

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URB

Urbanization Issues
in Water Supply and Sanitation

Urbanization Working Group of the Water Supply and Sanitation Collaborative Council

Report adopted at the Rabat Meeting of the Council

7-10 September 1993

Volume 1: Executive Summary

Working Group Coordinator
Mr Ivo Imparato, Ministry of Foreign Affairs, Italy

Executive Summary

1. The scale of urbanization

1.1 By the end of the century, 45% of the population of developing countries – some 2.25 Billion people – will be living in cities. Water and sanitation utilities and municipal governments have to translate the *quality of life expectations* of these huge numbers of people into functioning infrastructure, public policy, legal measures and social and community services. In recent years, the view has gained currency that urban growth cannot be reversed but that its effects must be managed. This task is especially difficult in developing countries, where large numbers of city dwellers live below the poverty line in underserved, degraded and illegal settlements.

1.2 The *peri-urban sector*, the term adopted by the Urbanization Working Group to describe the variety of these environments – squatter settlements, overcrowded tenements and boarding houses in inner cities, illegal subdivisions, etc – is often the dominant pattern of city living in developing countries. Rather than a deviation from the *normal* process of urbanization, or a transitory way of sheltering migrants, peri-urbanization must thus be acknowledged as a distinct process of producing cities, with its own features of constitution, growth and change over time.

2. The Working Group on Urbanization

2.1 Urbanization, and particularly the urgent needs of low-income urban communities, was one of seven priority issues identified by the Water Supply and Sanitation Collaborative Council at its meeting in Oslo in September 1991. The Council mandated a Working Group on Urbanization to assess the most suitable ways of achieving sustainable progress in the provision of water and sanitation services to the urban poor, and to report to the Rabat meeting in September 1993.

2.2 The Urbanization Working Group had a total of 61 members, including participants from both developing and industrialized countries. Based on a comprehensive review of research work and experience gained in the sector, Group members saw the need to address two key areas of concern which have been largely neglected in the past, but which are fundamental to the achievement of sustainable water supply and sanitation coverage to the poor in developing country cities:

- Lack of knowledge of the peri-urban sector, coupled with a failure to appreciate its importance, causes serious technological, economic and institutional mistakes; a better understanding of the peri-urban sector and availability of information on settlements to be served are crucial elements for the sustainable extension of service coverage.
- Enabling sector institutions to recover both capital and operating costs and to gain access to financial resources is crucial. Indeed, the lack of cost consciousness and of mechanisms for cost recovery and economic sustainability on the part of water and sanitation utilities has so far all but precluded their access to long-term capital markets – the only way to finance large-scale extension of coverage.

2.3 These two key areas of concern underlie the Working Group's call for action contained in this document. To address them, the Working Group has identified six inter-related strategic elements, and has developed a *basis for action* and *guidelines for immediate action* for each element. The elements are: security of tenure and other legal issues; people's participation; adequate cost recovery and resource mobilization; availability of technological options; institutional reform and capacity building; and water resources conservation and management.

3. Security of tenure

Basis for action

3.1 Full legal regularization of land tenure should not be considered a prerequisite for water and sanitation service provision. Local governments and utilities should work together to identify the minimum level of legal recognition of settlements that is necessary to guarantee security of tenure and to provide services. They should then gather data and information on peri-urban settlements in order to plan and design sustainable extension of service coverage.

3.2 Mutual recognition and the gradual upgrading of peri-urban settlements may then lead, in due course, to full tenure regularization. Indeed, tenure regularization can be seen as a step somewhere along the upgrading process which is based on mutual recognition.

3.3 Extension of basic services should be based on this *mutual recognition* between authorities and peri-urban settlement communities. Involvement of peri-urban communities, including their willingness to pay for services, and the commitment of local governments and WSS utilities to provide services to informal settlements should both be considered indispensable requirements.

Guidelines for immediate action

3.4 Governments should give utilities the legal right to provide WSS services to illegal settlements, by not subjecting this action to the unreasonable requirements of formal master plans.

3.5 WSS utilities should encourage and support the establishment, on the part of local governments, of a single *authority* or *office* with competence on land use and tenure regularization in informal settlements (permits, property titles, cadastral registers, etc), capable of speeding up the achievement of the minimum level of legal recognition necessary for providing services.

3.6 ESAs and governments should employ trained intermediaries (eg *paralegals* or barefoot lawyers) to work as legal aides and advocates at community level. NGOs can also take the initiative in addressing legal issues at local level, by employing paralegals. NGOs may also be used as intermediaries by ESAs, governments and utilities.

3.7 Institutions with useful information on informal settlements – local governments, utilities, property registries – should set up and jointly manage "interactive" cadastral databases to facilitate evaluation of land regularization applications and to coordinate information management among different sectoral spheres of competence.

3.8 Available computer applications for the acquisition, management and analysis of topographic, cadastral and socio-economic data on peri-urban settlements should be disseminated by ESAs, and subsequently by national sector agencies, to enable local governments, utilities and NGOs to plan and implement upgrading initiatives.

3.9 Governments should ensure women's access to security of tenure, for instance by removing existing obstacles to their signing contracts or deeds together with their male partners – or without them in the case of women-headed households.

4. People's participation

Basis for action

4.1 Partnership is an essential feature of the provision of water and sanitation services. To guarantee adequate project design and efficient and effective management, the partnership needs to include all the agencies involved (government agencies, utilities, banks, NGOs, grassroots organizations

and consumer groups). Governments, with the support of ESAs, should provide the legal, institutional and policy framework necessary to facilitate this partnership and remove obstacles preventing people's participation, especially those hampering the full involvement of women.

4.2 Organizing effective people's participation in the development and management of water and sanitation services requires specific skills and outreach services from government agencies, WSS utilities, NGOs and grassroots organizations. ESAs should provide opportunities for capacity building specifically aimed at enabling these organizations to implement participatory projects.

Guidelines for immediate action

4.3 Local governments and WSS utilities should establish specialized units or cadres to deal with peri-urban communities and should implement awareness and information programmes to encourage positive attitudes towards people's participation.

4.4 When formulating projects, particular attention should be paid to the instruments to be used – the *loci* of participation, the modalities of public meetings and consultations with community members, and the like – to ensure that women are involved and that their opinions are taken into account. Special patience and perseverance may be necessary to overcome women's resistance to participation, such as difficulties in expressing themselves before a male-dominated audience. The primary Environmental Care (PEC) approach may offer guidance on implementation of participatory processes in peri-urban settlements.

4.5 To assess the potential of any particular project activity, the implementing agency needs to identify the local resources available, not only in relation to technical and financial inputs, but also in terms of human resources – ie individuals and groups whose opinions carry weight in peri-urban communities and whose actions can affect their development.

4.6 ESAs need to revise regulations, conditionalities and programming requirements to facilitate people's participation in project planning and execution, since participatory approaches require flexibility in implementation and longer time frames.

5. Cost recovery and resource mobilization

Basis for action

5.1 Sound financial management of utilities is a prerequisite for gaining access to capital markets to finance new investments and to sustain WSS services. National governments, local authorities and WSS agencies need to change their policies on tariffs and cost-recovery in accordance with this principle.

5.2 It is necessary, however, to single out specific, demand-driven approaches to the question of cost recovery in the peri-urban sector, bearing in mind the prevailing social and economic situation and the specific mechanisms of the informal sector — income structures, employment levels , alternatives for savings and credit. In this context, development of methodologies to assess willingness and ability to pay of peri-urban communities is a crucial need.

Guidelines for immediate action

5.3 WSS utilities need to adopt modern management practices and information systems, including appropriate cost accounting, customer account management, and a consumer-oriented approach (collection of users' complaints, information, suggestions, etc), to improve their efficiency and create an atmosphere of trust for potential investors.

5.4 Although full cost recovery should be the basic principle for sound financial management, it does not preclude the application by WSS utilities of cross subsidies between projects, consumer groups, or others.

5.5 Transfer of resources from central governments should be necessary only in special circumstances. In those cases, it should be directed at subsidizing the demand rather than the supply, thus ensuring adequate targeting to the urban poor and sound financial management of the utility. Government subsidies need to be specific, transparent and temporary.

5.6 ESAs should launch initiatives aimed at training NGOs, banks and WSS utilities to make and recover loans in peri-urban areas (eg revolving fund schemes to allow households to connect to WSS networks). ESAs and governments should be willing to test incremental or gradual credit schemes, as well as the performance of groups of inhabitants and grassroots organizations in repaying loans ("solidarity guarantees").

5.7 Governments should remove the legal obstacles preventing women from gaining access to credit, giving them the same rights as men in the signature of loan contracts. Women's needs and opinions should be taken into consideration when devising repayment schedules and outreach mechanisms for credit schemes.

5.8 Recent research has shown that willingness to pay for improved water supplies is generally high. Nevertheless, willingness to pay needs to be assessed case by case and should form the basis of tariff systems and credit schemes. Both women and men should be consulted, to gain an understanding of the actual behaviour of households and their real willingness and capacity to pay. The key role played by women in building families' willingness to pay needs to be recognized.

6. Appropriate technologies

Basis for action

6.1 Appropriate technology for peri-urban areas does not mean simply low-cost technology. It means technology which is tailored to the specific conditions – the geomorphological features of peri-urban sites, the dynamics of growth and change in informal settlements, the effective demand for particular levels of service, compatible operation and maintenance requirements and, not least, affordability.

6.2 Developing appropriate technological options and design solutions for the complex and difficult physical and socio-economic conditions in the majority of peri-urban areas demands a higher level of engineering skills than is traditionally required for rural and formal urban WSS services.

Guidelines for immediate action

6.3 ESAs and national sector agencies should help WSS utilities to develop guidelines for carrying out assessments of available technological options. It would be particularly useful to develop performance indicators linked to the various service levels, to help in the selection of those which best suit local circumstances and will ensure sustainability on the basis of efficiency in the use of inputs and in relation to evolving local realities.

6.4 Planners of WSS projects need to take into consideration that peri-urban settlements are economically productive areas – not just residential areas.

6.5 As the main criterion for technology choice, planners should endeavour to find out directly from the main users (normally women) what features the proposed service needs to have. They should pay special attention to the uses of water in household activities – usually carried out by women – such as laundry, food preparation, washing children, cleaning the house.

6.6 Extreme caution should be exercised when considering the transfer of technological options from the rural to the peri-urban context.

6.7 ESAs should assist national sector agencies in implementing training and awareness programmes to change the attitude of utility professionals towards the selection and application of appropriate technology options. It is necessary to overcome the rigid adherence to conventional standards that prevails in engineering culture and to encourage interdisciplinary work.

6.8 ESAs, NGOs and WSS utilities should avoid building communal or public WSS services (eg water points, public toilets) on sites that are difficult to access, or too distant from households, or that do not preserve the right to privacy. Such features are particularly detrimental for women and children, who should be the most frequent users of these services.

7. Institutional reform and capacity building

Basis for action

7.1 The first target of institutional reform and capacity building should be to make sector institutions work by enhancing their financial and administrative efficiency. Beyond the need to improve the capacity of WSS utilities to perform their traditional duties, however, there is an important challenge to develop new capacities to provide services under the specific conditions of peri-urban areas.

7.2 Policy frameworks need to be developed at national level to address the roles, responsibilities and support needs of sector institutions in the delivery and management of WSS services in peri-urban areas. This does not only mean achieving the optimum performance of individual agencies in the provision of peri-urban services, but also promoting and supporting the establishment of partnerships among agencies.

Guidelines for immediate action

7.3 Human resources development (HRD) programmes should first of all aim at enabling utilities and sector institutions to attract and retain sufficient numbers of suitably qualified personnel, including those equipped to deal effectively with peri-urban service provision. HRD programmes should include:

- adoption of competitive, market-based salary levels and benefits;
- establishment of adequate career structures, incentives and evaluation procedures;
- provision of training opportunities linked to career progression;
- retraining of available staff in customer relations and community liaison and development activities;
- retraining of WSS personnel to improve their capabilities in dealing with the non-technical aspects of the delivery and management of services in peri-urban areas;
- special emphasis on enhancing capabilities in sanitation and sewerage development.

7.4 Involvement of the private sector should be encouraged by national governments and actively sought by utilities, which should explore possibilities for creating new roles for private companies in the provision of WSS services.

7.5 ESAs and national sector agencies should actively encourage the establishment of inter-institutional and interdisciplinary working groups with spending and decision-making powers, as an innovative institutional arrangement to coordinate and promote upgrading of peri-urban areas

and their integration into the city. In large cities or metropolitan areas, several such units could be created on a decentralized basis.

7.6 ESAs and national sector agencies should actively encourage WSS utilities and NGOs to develop mechanisms for NGOs to act as intermediaries or surrogate service providers to peri-urban communities when legal, administrative or other constraints prevent direct service provision by WSS utilities.

7.7 Local governments and WSS utilities, with the help of NGOs and citizens' groups should assess the existing roles , responsibilities and capabilities of agencies dealing with peri-urban WSS services in their locality, to help define possible institutional reforms.

8. Water resources conservation and management

8.1 This theme has featured prominently in several recent international consultations (eg ICWE – Dublin, UNCED – Rio). Important new developments are under way in the fields of applied research and policy analysis on issues like solid waste management and water resources pollution, hazardous wastes, water requirements and waste generation by small-scale and cottage industries. The Urbanization Working Group has discussed and endorsed some key concepts from the international debate. These are summarized below and amplified in the Group's Main Report.

Basis for action

8.2 Local governments, in partnership with other agencies, should be encouraged to develop an integrated approach to the delivery and management of environmental infrastructure – water supply, sanitation, solid waste disposal and drainage. In this context, extension of sanitation coverage to peri-urban areas needs to be recognized as a means of enhancing water resource protection.

8.3 Conservation and sustainable use of water resources require the development and implementation of a comprehensive framework of economic and regulatory instruments and incentives, as well as concurrent public information activities and enhancement of monitoring and surveillance capabilities.

Guidelines for immediate action

8.4 Governments, with the help of ESAs, should explore practical ways of applying economic and regulatory incentives and instruments (eg the "polluter pays principle") to protect water resources. In this context, monitoring and surveillance should be enhanced and undertaken systematically, to help prevent water pollution and improve water management.

8.5 WSS utilities should improve their own water conservation, through control of physical water losses, including leakage detection programmes, and improved measuring and charging mechanisms to reduce unaccounted-for water.

8.6 The fact that extension of sanitation services to peri-urban areas also protects water resources provides an added incentive for WSS utilities to explore ways of stimulating demand for sanitation and extend coverage, with the participation of the users.

8.7 Governments should adopt economic and regulatory incentives to enhance water conservation and urban wastewater reuse, as ways of easing water shortage problems and to facilitate collection and treatment of wastewater.

9. Matters requiring further research and empirical testing

9.1 The Urbanization Working Group singled out a number of matters that need further investigation through research, collection and exchange of documentation, and empirical testing. These issues could be addressed in any future activities of the Working Group which may be approved at the Rabat meeting.

9.2 ESAs, national and local governments and sector agencies, utilities and NGOs are urged to design and implement applied research and information dissemination programmes in relation to the following:

1. Intermediate legal options for security of tenure in informal settlements.
2. Simplified institutional arrangements and bureaucratic procedures for cadastral registration and settlement regularization.
3. Rationalization of bureaucratic spheres of competence and procedures to grant legal title to tenure (or similar).
4. Policies and mechanisms to provide services to vulnerable groups (eg renters) and protect their interests when undertaking legal recognition and settlement upgrading, without blocking these processes.
5. Policy and legal instruments to facilitate service provision to settlements which, although they fall outside the territorial jurisdiction of local authorities, are part of the urban structure.
6. Effective ways of sharing responsibility for projects (financial resources, labour, management, etc) and for the operation and maintenance of completed works among implementing agencies, WSS utilities and local communities (the desirable scope and level of community participation vary with the socio-cultural context).
7. Feasibility of implementation and functionality of existing tariff systems in relation to the goal of full cost recovery.
8. Comparative advantages of available mechanisms for equitable cost recovery (cross subsidies, single tariff with direct subsidies to poorest groups, and so on).
9. Practical mechanisms and institutional arrangements for breaking down large loans from financing organizations into the small loans needed for participatory approaches in peri-urban settlements.
10. Application of economic penalties and incentives, such as those based on the polluter pays principle, to environmental conservation and sustainable use of water resources.
11. Requirements and constraints relating to private sector involvement (eg guarantees offered by local and national governments, low revenues of WSS services, cost recovery frameworks, clear and stable rules, etc) and effectiveness of the various degrees of private sector involvement, including full privatization, in extending and improving services for the poor.
12. Technical solutions for adapting WSS systems to the shelter and infrastructure conditions of the peri-urban sector.
13. Patterns and requirements of household activities – food preparation, laundry, personal hygiene, house cleaning – in relation to water use, so that women's needs can be taken into consideration when formulating projects.
14. Guidelines for the practical application of participatory principles.

URB

Urbanization Issues
in Water Supply and Sanitation

Urbanization Working Group of the Water Supply and Sanitation Collaborative Council

Report adopted at the Rabat Meeting of the Council

7-10 September 1993

Volume 2: Main Report

Working Group Coordinator
Mr Ivo Imparato, Ministry of Foreign Affairs, Italy

Foreword

In recent years, it has become increasingly clear that, all attempts at stopping or reversing urban growth having failed, the urban poor need to be viewed as a priority target group for government action and development assistance. In particular, urban fringe areas and squatter settlements - whose explosive growth is a common denominator in developing country cities - have been traditionally neglected in the development aid picture because they were felt to be unruly, transitory phenomena that the process of development would somehow take care of in due course.

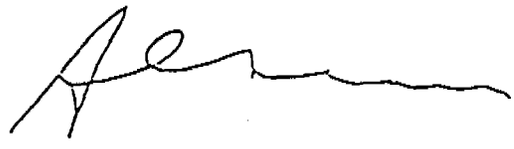
Recent research has shown, however, that urban informal settlements, once they are formed, tend to be remarkably stable, and that many such communities are showing great resourcefulness in endeavouring to improve their habitat, with little or no external help. In a word, that it should be possible for governments, development agencies and NGOs to work successfully with peri-urban communities in infrastructural and shelter improvement projects.

Our experience with the WSSCC Working Group on Urbanization has demonstrated that in undertaking this exercise we have responded to a very real demand, that is felt by many in the water sector. Such a demand, we have found, is first of all for knowledge, that can then be translated into tools for action that are based on an understanding of the dynamics of settlement formation and evolution, and on better knowledge of how the various agents interact in each situation.

Such knowledge on how cities change and grow is necessary to develop an altogether new urban development paradigm for the developing country city of the 21st Century. An urban development paradigm based on the real city, that does not ignore what is already there in favour of abstract formulations, as is still so often the case.

The interest shown by Working Group members was remarkable. We have worked with 61 colleagues from many countries and international agencies, and several more were indirectly involved. This has certainly made the group a little difficult to manage, but it has also made it possible to draw on a wide array of backgrounds, affiliations, and field experiences.

The Government of Italy is happy to have been able to contribute to the international debate on such a crucial subject through the Collaborative Council, which is quickly proving to be an excellent arrangement to mobilize the collective expertise of the water and sanitation sector.



Min. Plen. Antonio Catalano di Melilli
Deputy Director General, MAE/DGCS

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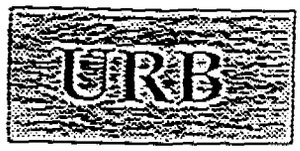

Acknowledgements

This work would not have been possible without the constant support and encouragement of Min. Antonio Catalano di Melilli and Mr. Ranjith Wirasinha.

The challenging task of coordinating the Working Group on Urbanization was made all the more rewarding by the collaboration of many friends and colleagues who generously offered their time, insights and operational assistance. I am particularly indebted to John Austin, Antonia Caponera, Luciano Carrino, Margaret Catley-Carlson, Ignazio Galli, Alfredo Guillet, Bryan Locke, Antonio Mascia, Anna Maria Pinchera, Alexander Rotival, Gehan Sinnatamby, and Rodolfo Zoppis.

The 61 Working Group members contributed to our common task beyond the call of duty, by sending a steady stream of inputs and comments and taking active part in our meetings and deliberations in Geneva and Siena. Special thanks are due to Alex Abiko, Klaus Erbel, Jorge Gavidia, Han Heijnen, David Painter, Eduardo Perez, Carlo Rietveld, Gustavo Riofrio and Raquel Rolnik, who worked late into the night at Pontignano to draft the Working Group's recommendations.

The University of Siena, by graciously letting us use its *Certosa di Pontignano* complex, greatly contributed to the success of our Working Group meeting.

Loredana Stalteri mobilized key resources within the MAE/DGCS Central Technical Unit and took active part in the seminars organized with Giuseppe Imbesi (University of Rome) and Carlo Monti (University of Bologna) to discuss and disseminate the Working Group's findings.

UNDP/World Bank Regional Water and Sanitation Group Managers gave a key contribution to the establishment of our network, by putting us in contact with potential Working Group members from their respective regions.

Last but not least, the dedication, competence and good humour of CERFE scientific and operational staff are to be highly commended.

Ivo Imparato
Rome, July 1993

URB Introduction

The Working Group's Mandate

Urbanization was one of the six key themes of the Oslo Meeting of the Water Supply and Sanitation Collaborative Council (September 1991). The theme was introduced by a substantive keynote paper presented by UNCHS (Habitat), and the urgent needs of low-income urban communities featured prominently in discussions throughout the meeting.

A consensus was reached at the Oslo Meeting on the need to develop new approaches to provide a framework for increased investment in programmes to serve the urban poor. Participants in working sessions devoted to Urbanization proposed that the Council establish a specific Working Group to develop action-oriented recommendations on the most suitable ways of achieving sustainable progress in the provision of water and sanitation services to the urban poor.

The plenary session that concluded the Oslo Meeting endorsed the need for a Working Group on Urbanization. Several Council members from developing countries and external support agencies volunteered to participate, and the Working Group began to organize its activities soon after Oslo.

Coordination and operational support to the Working Group have been assured by the Directorate General for Development Cooperation (DGCS) of the Ministry of Foreign Affairs of Italy (MAE).

The Scale of Urbanization

The urban share of population is growing rapidly all over the world - from 29% in 1950 to an expected 48% in the year 2000 and 57% in 2025. The overall number of urban residents has increased four-fold in the last 40 years.

By the end of the century, in developing countries, 2.25 billion people - fully 45% of the population - will be living in cities. Water and sanitation utilities and municipal governments are thus in the position of having to translate the *quality of life expectations* of great numbers of people into functioning infrastructure, public policy, legal measures and social and community services. In recent years, the view that urban growth cannot be reversed, but that its effects must be somehow managed, has gained currency. This task is especially difficult in developing countries, where large numbers of city dwellers live below the poverty line in underserved, degraded, and illegal settlements.

The *peri-urban sector*, the term adopted by WG/U to describe the variety of shelter alternatives utilized by the urban poor - squatter settlements, overcrowded tenements and boarding houses in inner cities, illegal subdivisions, etc. - is often the dominant pattern of city living in developing countries. Rather than a deviation from the "normal" process of urbanization or a transitory way of sheltering migrants, peri-urbanization must thus be acknowledged as a distinctive process of producing cities, with its own features of constitution, growth and change over time.

The conditions of peri-urban settlements are generally worse than inadequate, both in terms of shelter and infrastructure. Lack of economic resources, coupled in many developing countries with an unfavourable policy environment, has been a key constraint in defining and pursuing long-term goals for the extension of basic settlement infrastructure and services, preeminent among which are drinking water supplies and excreta sanitation, which directly affect the *living environment* and the very survival of people.

In developing countries, typically a low proportion of central government expenditure is directed towards human settlement infrastructure. Expenditure by international support and financing organizations is also low, in proportion to other sectors. Moreover, most of the publicity and media attention regarding the environment focuses on global issues such as deforestation, ozone depletion and biodiversity. Problems related to the living environment of people receive comparatively little attention, although they affect human life and health more directly, on a day to day basis.

The interest shown by the recent United Nations Conference on the Environment and Development (UNCED, Rio 1992) in themes related to the quality of human settlements is therefore a welcome sign. In fact, the recommendations of UNCED, embodied in *Agenda 21*, feature increased investment in settlement upgrading as a prominent strategic option. It is our hope that UNCED's call is heeded, and that the recommendations of this report may contribute to the definition of the approach underlying such increased investment.

Areas of Concern and Strategic Elements

The WSSCC Working Group on Urbanization, after having carried out a comprehensive review of research work and experience gained in the sector, has come to the conclusion that achieving sustainable progress in the extension of water supply and sanitation coverage to the poor in developing country cities depends on effectively addressing *two key areas of concern* that have been largely neglected in the past:

i) lack of knowledge of the peri-urban sector, coupled with a failure to appreciate its importance, causes serious technological, economic, and institutional mistakes; a better understanding of the peri-urban sector, and the availability of information on the settlements to be served, are thus crucial elements for the sustainable extension of service coverage;

ii) enabling sector institutions to recover both capital and operating costs and to gain access to financial resources is crucial; indeed, the lack of cost consciousness and of mechanisms for cost recovery and economic sustainability on the part of water and sanitation utilities has so far all but precluded their access to long-term capital markets - the only way to finance large-scale extension of coverage.

These two key areas of concern underlie the call for action contained in this report. The Working Group has identified *six strategic elements* that have to be taken into account in order to effectively address both areas of concern. The order of presentation is the same used for the WG/U preparatory documents and does not imply a judgment on the relevance of the strategic elements, since they have all been recognized by the Working Group to be interrelated and to have an important impact on the areas of concern outlined above. The elements are: security of tenure and other legal issues; people's participation; adequate cost recovery and resource mobilization; availability of appropriate technological options; institutional reform and capacity building; and water resources conservation and management.

Each of the six strategic elements is the object of a chapter of this report. The research carried out by the Working Group has also identified a number of gaps in knowledge and information exchange, that constitute serious constraints to sustainable service extension in peri-urban areas. A reasoned list of such *knowledge gaps* is given in Chapter 7.

Research Activities and Recommendations

The magnitude and complexity of the Working Group's task made it necessary to draw on the expertise and viewpoints of a wide cross-section of the Collaborative Council membership. It was thus decided to forward the Working Group's Terms of Reference to a list of *prospective WG/U members*, chosen for their knowledge of urban issues, inviting the presentation of inputs that, in their view, could be relevant to the study at hand. Many Council members answered the Coordinator's call, by sending their inputs - desk evaluations, published and unpublished material, academic work, statistical data, case studies and suggested policy formulations - and commenting on the Terms of Reference.

Subsequently, Working Group members commented on the *Strategy Outline* paper that was intended as the basis for the research. A Core Group Meeting in Geneva, in November 1992, defined the nature of the Working Group's outputs and the contents of the WG/U Strategy Outline, setting the criteria for the research effort that ensued.

The WG/U Report is based not only on the numerous inputs submitted by the 61 members of the Working Group, but also on the consultation of other publications and reports already in possession of the Ministry of Foreign Affairs of Italy, or present in one of the various data bases managed by CERFE - *Centro di Ricerca e Documentazione Febbraio '74*, the Rome research institution that has been appointed to perform the functions of scientific and operational Secretariat to the Working Group.

The research activity of the Working Group consisted in a systematic survey, carried out by CERFE, on the 271 documents present by 31 December 1992 in the WG/U Data Base. The 271 documents or sources contain 400 *analysis units* (called *studies* or *texts* in this report), equal to 14.000 pages. The filing of the information contained in the documents into a Macintosh computer was based not only on formal criteria (date of publication, author, title, number of pages, etc.) but also on the informatization of the findings of the analysis of each of the 400 units, particularly those related to the main constraints and resources highlighted, to the branches of knowledge and of disciplinary specialization present in the documents, to the interventions described and to the actors mentioned, etc.

A code composed by a letter and a progressive number (ex. W138, C34, etc.) has been attributed to each analysis unit or text. References in brackets present in the text of this report refer to this code. The complete list of the texts, with their respective codes, is given in Annex 5.

Although many more are mentioned, peri-urban WSS projects that are thoroughly identified and described in the 400 studies examined number 67. For these 67 projects, the following information is in fact available: implementing agency and its social and institutional counterparts; duration; cost; the social, environmental and economic outcome of the project and an evaluation of its degree of success. Out of the 67 interventions, there are 31 that can be considered, on the whole, successful.

The WG/U Data Base is not so much a data bank as an *information bank*, which can be viewed as a cross between an archive, a survey and a traditional data bank. The decision to carry out a systematic analysis on a large number of documents rather than studying a small number of significant cases, as is often done in the field of international development cooperation, was by no means the obvious one, and therefore deserves justification. The main reason why this approach was preferred is the conviction that at the present time, in the field of urban water and sanitation, it is not so much a knowledge of individual succesful experience that is lacking, as the overall framework regarding the roles, responsibilities and support needs of the various agents involved in service delivery and maintenance.

As regards the representativity of the survey, the following considerations apply.

* The documents have mostly been submitted by persons active in the field, who, one presumes, have chosen the most significant information in their possession.

* The oldest documentation dates back to 1983, while most studies (over 70%) were published in 1991 and 1992. It can therefore be said that the WG/U Data Base consists entirely of recent documentation.

* Distribution by geographic area is slightly biased in favour of Latin America. However, the significant presence of data on all regions, as well as a good breakdown between the local, national and regional levels, guarantees sufficient geographic and territorial representativity. Furthermore, the WG/U Data Base contains information on virtually all major developing country cities.

It may therefore be said that our *information bank* is quite representative, even if not in strictly statistical terms (since the 400 studies in the archive are at any rate a sample of an unknown universe). A more thorough assessment of the representativity of the survey, as well as of the reliability and validity of the sources, is given in the WG/U *Research Report*, which will be available for consultation at the Rabat Meeting of the Collaborative Council.

The research effort permitted the identification of constraints, resources, matters of debate, and ideas & suggestions on each of the *six strategic elements* of the WG/U

Strategy Outline. This research material, presented in the WG/U Working Documents, was analyzed and debated at the Siena Meeting (25-28 April 1993), by 27 members of the Working Group who represented - in almost equal proportions - developing countries and external support agencies. Many members who were unable to attend the Siena Meeting sent their comments in writing.

The resulting recommendations - a *basis for action* and *guidelines for immediate action*, as well as *further recommendations*, on each of the six strategic elements identified by the Working Group - are given in the following chapters. A *tool-kit approach* has been adopted in their formulation, to keep recommendations relevant, concise and to the point, and to identify, to the largest possible extent, who should be responsible for each of the recommended actions.

Editor's Note

The chapters of this report are organized along the following lines:

- a *description of the contents* of each chapter is given at the foot of the first page, in bold-face;

- the first part (the theme) *briefly defines*, on the basis of the current literature, the issue discussed in the chapter (Chapters 1 through 5);

- the second part gives the *results of the research* as regards the subject matter of the chapter (Chapters 1 through 5);

- the third part presents a *typology of constraints and resources*, such as they appear from the texts examined (Chapters 1 through 5);

- the fourth part *examines the main constraints and resources* listed, giving illustrative examples (Chapters 1 through 5);

- the fifth part gives the Working Group's *recommendations* on the subject of the chapter (the *second* part in the case of Chapters 6 and 7).

A significant portion of the contents of the chapters that follow - in particular, research results and constraints & resources for each theme - was already present in the Working Documents prepared for the Siena Meeting (25-28 April 1993). The Working Group's recommendations were adopted at the Siena Meeting and edited by the Coordinator and Secretariat.

A chronology of the Working Group' s activities and a list of its members are given respectively in Annexes 1 and 2.

A list of CERFE staff members and consultants who were involved in the exercise is given in Annex 3.

Annex 4 contains the formulations (matters of debate, ideas & suggestions, proposed recommendations) analyzed at the Siena Meeting on the themes of Chapters 1 through 6 of this report.

Finally, a list of the sources employed in the preparation of this report is given in Annex 5.

The other documents produced by the Working Group - *Terms of Reference, Background Paper, Recent Developments, Strategy Outline, Geneva Core Group Meeting Report* and *Research Report* - will be available for consultation at the Rabat Meeting and are available from the Working Group Secretariat on request.

Chapter 1
Security of Tenure and Other Legal Issues

Chapter 1 discusses issues and problems concerning the legal status of peri-urban settlements, which include constraints on obtaining security of tenure and legal recognition thereof, titles to property, building permits and rights of way, as well as descriptive information on settlements for cadastral and design purposes and for establishing the legal framework for settlement upgrading and service delivery.

The theme

1.1. Security and legal recognition of tenure in the peri-urban sector are two key issues local governments and cooperation agencies must frequently address in order to implement development policies in that sector. The certainty of non-removal from the dwelling, or the land on which the dwelling is built, is, in peri-urban settlements, often a prerequisite for the investment of resources in shelter improvement and WSS services, for both the population and the municipal authorities: the former will not spend their money on infrastructure if they are not sure they can remain in the settlement, and the latter are often not authorized to act beyond the boundaries of the so-called *formal city*.

The term "legal recognition" means, on the one hand, municipal government interventions which do not affect land tenure, but only concern the possibility of building in a certain peri-urban area (and thus require the use of urban development tools such as the master plan), and, on the other, procedures for regularizing or recognizing rights of tenure or of occupation.

1.2. The problem of the legal status of peri-urban settlements is particularly significant in light of the sheer numbers of citizens currently living in places that are legal non-entities as far as governments are concerned. It is estimated that 30 to 60 percent of the urban population of developing countries lives in shelter considered illegal by their governments (cf. C. Patton, 1989; UNCHS (Habitat), 1988).

1.3. The procedures by which a government recognizes peri-urban settlements may vary according to how such settlements develop. In the extensive literature on the subject (cf. C. Patton, 1989; D. Hulme, 1987; A. Clementi, 1985; J.F. Turner, 1972; A. Gilbert and P. Ward, 1982; D. Satterthwaite, J. Hardoy, 1989) three main types of illegal settlements are defined:

a) squatter settlements or shanty towns: the result of the gradual occupation of public or private land on the outskirts of a city (for example, the occupation of land destined for agricultural use), as well as the occupation of inner-city areas deemed unsuitable for development, on the tide of migrations or forced exodus;
b) settlements caused by "organized invasions": this type of occupation often comes about as a result of initiatives by sectors of local government or community leaders, who invite families and individuals to occupy public land as a makeshift solution to the housing shortage;
c) illegal subdivisions: managed by landowners themselves for speculation, in open contradiction with existing urban planning regulations.

1.4. The procedures necessary to recognize or legalize informal settlements have been the subject of many studies on the peri-urban sector in developing countries (cf. UNCHS (Habitat), 1988; D. Satterthwaite, J. Hardoy, 1989; T. Maria Solo, E. Perez, S. Joyce, 1992).

Two factors which make it difficult to define a standard legal recognition procedure are the great diversity of legal systems and the different ways governments organize relations between central and local authorities in each country. However, it can be stated generally that numerous jurisdictions and spheres of competence are always involved (ministries, service agencies, utility companies, departments and municipal boards charged with public works, urban development, land use and the environment, health, the treasury and taxation) at the municipal, district and national level.

BOX 1 - THE THOUSAND NAMES OF INFORMAL SETTLEMENTS

C.V. Patton ("Spontaneous Shelter", 1989), in an international survey of spontaneous settlements, found over 50 different names for peri-urban informal settlements. The names belie the variety of notions held concerning informal settlements in urban areas worldwide.

Argentina: villas miserias
Brazil: favelas, alagados, vilas de mocoes, cortiços, invasões, mocambos
Chile: callampas, campamentos, poblaciones
Colombia: invasiones, barriadas, barrios piratas, urbanizaciones piratas, barrios clandestinos, tugurios
Ecuador: barrios, urbanizaciones, ranchos
Ethiopia: chica
India and Pakistan: bustees, jhuggis, jhopris, chawls, ahatas, cheris, katras
Indonesia: kampung
Korea: panjachon
Mexico: asentamientos irregulares, colonias populares, colonias paracaidistas, jacales, ciudades perdidas
Morocco: bidonvilles
Panama: barriada de emergencia
Peru: pueblos jóvenes, barriadas, barrios marginales
The Philippines: barong-barong
El Salvador: colonias ilegales, tugurios
Tunisia: gourbaville, bidonville
Turkey: gecekondus, issizler tepe
Venezuela: ranchos, barrios
Former Yugoslavia: crne gradnje

Legal Status in the texts examined

1.5. It should be noted that, in general, discussion of the legal status of peri-urban areas is not a preeminent topic in the papers examined (it is mentioned in 27.5 % of these, and is prevalent in only 4 %).

Incidence and prevalence of topics (*) in the studies examined (the total does not add up to 100% because several subjects may have been dealt with together in a given study).

	studies in which the topic is present	studies in which the topic is prevalent
Legal Status	27.5%	4.0%
Citizens' Participation	53.7%	31.5%
Cost Recovery	48.5%	21.2%
Appropriate Technologies	42.7%	20.2%

(*) These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements.

1.6. The relative neglect of this topic as compared to others, such as the economic, political and technological aspects of WSS services, is generally indicative of the lack of legal expertise of those who deal with WSS services in urban areas (only one study out of 400 was written by lawyers). It should also be noted that only 10.5% of the studies deal specifically and resolutely with urban planning issues. The neglect of regulatory, urban planning and legal issues in the study of the peri-urban WSS sector is further confirmed by analysis of the information available on this subject in IRC's data bank. IRC, based in The Hague, is a major documentation centre on community-based WSS. Only 19 documents are filed in its data bank under the title "legal status" in the context of "urban areas" or "urbanization". The lack of legal expertise and the underestimation of regulatory and urban planning aspects are not secondary elements, if one recalls that almost all the texts give - at least in principle - *security of tenure* as one of the central elements for the success of urban development policies targeted at the poor.

1.7. One of the reasons for the relative neglect of legal and regulatory issues in the studies analyzed can be traced back to the *"emergency perspective"* with which WSS projects in the peri-urban sector are often implemented. In many cases, the primary and vital nature of water services prompts technicians and administrators to concentrate on the operational and infrastructural aspects of the installation of conduits and pipes for drinking water supply, relegating to the background legal and urban development issues such as description and assessment of the status quo, cadastral registration and recognition of land tenure, which require a wholly different time frame.

Moreover, this *"emergency perspective"* generally prompts the various bodies dealing with WSS to pay more attention to water supply than to sanitation. And, in a broader framework, the apparent neglect of legal status issues in the studies examined may be due to overlooking the importance, for the sustainability of WSS services, of mutual recognition between local governments and informal settlement communities.

A second reason for the neglect of the legal status issue in the studies analyzed may be the tendency to focus mainly on the local context, while the broader legal framework for urban development is normally defined at higher levels. In international organizations, there seems to be a widespread *"government-phobia"* (OECD-DAC, 1992), which prompts many development agencies to look mainly to local authorities as potential counterparts. Moreover, it would appear that national governments have little interest in peri-urban WSS problems, given that there are only 10 studies authored by them in the entire WG/U data base. This attitude means that it is rare to find discussion of the legal framework for WSS services or of the development of urban development regulatory tools by national governments or international development organizations, and that when there is such discussion it focuses on the local level. This is confirmed by a surprising figure, given the general lack of interest in this subject: municipal governments deal with the issue of legal status in 90% of cases, while international organizations deal with it in only 21% of cases (as a percentage of the texts submitted by each category of organization).

Incidence of the Legal Status issue by type of organization (%)

Local governments	90.0
Bilateral cooperation agencies	29.5
WSS utilities	26.6
NGOs	22.6
International organizations	21.7
National governments	20.0
Others	29.2

1.8. The main subjects discussed in the texts dealing with legal status are:

- rules, regulations and procedures for recognizing rights of ownership or occupation of land or dwellings in informal settlements;
- rules and regulations regarding the organization of the housing sector or of WSS services;
- procedures and tools for the collection and management of human settlement information for planning, design and legal purposes.

Resources and Constraints

1.9. The inadequacy of the discussion of the legal status issue is again evident in the controversial assessments which the authors of the studies examined give with regard to procedural and regulatory options for dealing with the issue of legal status, and to existing impediments to the implementation thereof. Indeed, as is evident from the list of constraints and resources given below, the very same step (e.g. legalization of stable tenure) is considered at times a constraint, and at times a resource.

CONSTRAINTS AND CHALLENGES

- ○ *complexity and high cost of bureaucratic and legal procedures for regularization of settlements*
- ○ *soaring land and housing prices in the aftermath of legalization, and expulsion of the poorest families from legalized settlements*
- ○ *lack or inadequacy of existing legislation in the housing and WSS service sector*
- ○ *excessive legislative output that is difficult to apply in practice*
- ○ *settlement regularization is not included in the institutional sphere of competence of WSS authorities and utilities*
- ○ *unclear definition of urban administrative boundaries*
- ○ *lack of specialized personnel to gather urban sector statistics*
- ○ *indifference or resistance on the part of renters*

OPTIONS AND RESOURCES

- *informal processes of land subdivision and distribution* ☐
- *increase in citizens' participation after legal recognition of informal settlements* ☐
- *increased investment by citizens who are granted ownership or building permits* ☐
- *new computer applications for the collection and analysis of cadastral and socio-economic data on informal settlements* ☐
- *collaboration among the various institutional players (municipalities, WSS authorities, other utilities)* ☐

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1.10. The challenges and options regarding legal status found in the studies can be broken down into three main categories:

a) procedures for recognizing informal settlements and for granting title, or occupation rights, to land;
b) existing legislation;
c) procedures and tools for collecting information on peri-urban settlements for planning, design and cadastral purposes.

On the other hand, the problems arising from the situation of renters, who are a majority in many peri-urban settlements, are given far less prominence in the studies.

a) Procedures for recognizing informal settlements and for assigning ownership or land occupation rights

The main constraints mentioned in the studies examined on regularizing the legal status of peri-urban settlements are the extreme complexity of bureaucratic procedures, the length of time involved and the high cost to settlers.

BOX 2 - SUCCESS STORIES

Examination of the case studies presented reveals a marked tendency to underestimate the legal status approach as an effective tool. The positive outcome of an intervention was directly linked to the legal status approach in only one case. In 25 cases, out of the 31 fully reviewed interventions with a positive outcome, there was no mention of the legal status issue. However, some interesting examples exist.

The programme called "PROFAVELA", implemented in Belo Horizonte (Brazil) from the mid-60's onwards, had two objectives: facilitating integration of the "favelas" into the "formal city" with the provision of public infrastructure, and improving the income levels and quality of life of poor families. The project was undertaken under "Legislação do Programa Municipal de Regularização de Favelas", comprising law 3532/83 and its Decreto Regulamentar 4762/84 (cf. W15). "Profavela. O morro já tem vez" (W149), the report on the project published in 1988 by URBEL (the municipal company that coordinated the project), makes the point that effectively tackling the issue of the legal status of an area of "favelas" is linked first of all to the regularization of the legal status of the land, and subsequently to granting legal tenure to occupants of subdivisions of occupied land. Two specific objectives of legal recognition are thus set out in the case study: first, recognizing the occupation of land by spontaneous settlements; second, making it possible for inhabitants of the "favelas" to obtain legal tenure. The project included a planning stage and mapping the de facto land subdivision. The "Decretos de Aprovação de Parcelamento" and the "Normas de Uso e Ocupação do Solo" then assimilated the "favelas" into the city's legal framework. URBEL also provided inter-institutional coordination (on the federal, state and municipal levels), as required for legal recognition. The case study lays out the benefits of taking the legal recognition approach, including: the number of people who benefited (13,529 inhabitants); the "favelas" with subdivision maps approved for land use and occupation (eight areas); and "favelas" in the process of being legalized (10 areas, with a population of 21,000 inhabitants). The case study also highlights the active participation of the community in the various stages of settlement upgrading.

The issue of the legal status of peri-urban settlements is also dealt with in other projects, e.g., the upgrading of the "favelas" of Diadema (São Paulo, Brazil), carried out between 1983 and 1988 (cf. W12). Land regularization is presented as the fifth step in the upgrading of the "favelas", preceded by: preliminary study of the physical and social environment; design of the settlement upgrading intervention; organization of the project; and infrastructure works and complementary services. After regularization, the sixth step is to make available the services of concessionary utility companies (water, sanitation, electricity, etc.). At the beginning of the implementation phase, the municipality, the "favelas" residents' movement and other interested parties in each community distributed to the population a summary of the bill under discussion in the "Camara de Vereadores", to explain the advantages of the upgrading of the "favela" and of the land use and tenure regularization which is part of the upgrading process.

An example of the above is illustrated in H. De Soto's research on informal settlements in Lima (C152) (cf. box 4 "Lessons learned"). The lengthy formalities for registering property and the high taxes are also mentioned as constraints to legal recognition in a case study in Indonesia (C188H). Other examples which demonstrate the extreme complexity of legal recognition procedures are given in a study (C188F) on Bogotá and Cali (Colombia). In those cities there are considerable delays in recognizing tenure because of the complicated bureaucratic procedures; this has also caused the price of dwellings to rise. The author, Ernest E. Alexander, points out that 500 different administrative steps were required over a minimum of three years to obtain authorization from the municipal authorities to develop a given site. Similar problems are described in a case study of El Salvador (C297).

On the other hand, there is some controversy on the opportunity of legalizing peri-urban settlements. According to Mariken Vaa of Norway (W155), for example, legal recognition of land tenure may cause a general increase in housing prices and have the effect of expelling the poorest inhabitants from the settlements.

A study of legal recognition procedures in Mexico (C248), moreover, argues that granting legal land tenure and building licenses has had little effect on the level of investment in shelter improvement on the part of the inhabitants. Moreover, the study maintains that state intervention to legalize informal settlements, if not accompanied by service extension, is often viewed as an external, quasi-authoritarian imposition. It may thus foster opposition and resistance on the part of the inhabitants, as has been the case in some squatter settlements in Uruguay (C248).

Security of land and housing tenure, on the other hand, are demonstrably elements that encourage investment of time and money by the residents in the improvement of shelter conditions and the supply of services. This is seen, for example, in a study on the legal status of the "ejidos" (community-held land originally destined for agricultural use) in Mexico City and in a study on the Baldia settlement in Karachi (Pakistan) (W269).

It therefore seems that the critical element for service extension is the recognition of *de facto* tenure in settlements by the local government, while full-blown legal recognition (e.g. granting titles to property) is a gradual, long-term process.

A study on Latin America (C188F), however, maintains that legal recognition of informal settlements tends to bring about an improvement in the existing housing stock, but is not an incentive for increasing the number of dwellings.

Furthermore, there is plenty of evidence in the case studies examined that inhabitants may actually benefit from the informal subdivision and distribution of land. The study on Latin America mentioned earlier (C185F) stresses that illegal subdivisions furnish many of the poor with plots of land which they otherwise could not afford. Families can thus acquire land, build a dwelling on it and gradually improve the property. Moreover, illegal subdivisions, as in the case of the Ciudad Bolivar settlement in Bogotá (Colombia), take much less time than duly authorized public projects, often rendering the latter useless. The same point is made in a study on the outskirts of Bangkok (C211), where private builders illegally provided parcels of land at low prices, already equipped with services.

These forms of "spontaneous" urban development have induced the creation of the "sites & services" method, wherein local authorities provide the land parcel equipped with services to families who then build their houses autonomously. The method was successfully implemented by the World Bank, for example, in peri-urban areas of Morocco and Tunisia.

Flexibility in public intervention programmes, in adjusting to local concepts of property ownership, is mentioned in some studies as an important ingredient for success. For example, in Yogyakarta (Indonesia) (W72), the institution of local committees empowered to authorize the sale of land and able to communicate with the population proved a successful initiative. The committees were instrumental in significantly increasing land acquisition and distribution among residents and for stressing that the meaning of property ownership is not merely economic.

Other case studies concerning Pakistan, India, Cambodia and Sudan (W116) show, moreover, that security of land tenure is indispensable for implementing community participation initiatives. In Brazil, at Belo Horizonte, the approval in 1983 of the PROFAVELA law - recognizing the right of the inhabitants of shanty towns to come to own the land they occupied, and thus assimilating people heretofore considered invaders into the formal city - has laid the groundwork for the effective involvement of the *favelados'* grassroots organizations and of the whole population in a settlement upgrading programme (cf. box 2).

In other cases, tenure regularization programmes were based on recognition of the community's own forms of self-organization. For example, one study (C211) describes a programme implemented in the outskirts of Bangkok, in which 20 to 60 percent of the inhabitants' land tenure was recognized, the percentage varying according to settlement location and density, the quality of local leadership and the degree of community organization.

b) Existing legislation

Various constraints can be ascribed to the lack of specific legislation on housing and on WSS services in peri-urban settlements. For example, one UNDTCD document (W46) refers to the lack of specific legislation on water supply as one of the elements impeding proper management of WSS utilities. A study on WSS in Argentina (W57) also concludes that one of the main obstacles to the development of WSS services is the lack of laws and a regulatory framework dealing specifically with peri-urban settlements.

Moreover, even where such laws are on the books, they are often inadequate for WSS requirements. Some studies emphasize the inadequacy of the legislation in force (W110), pointing also to obsolete building codes and regulations. A study on a project in Zambia (W298A), for example, confirms that one of the greatest constraints on service extension to informal settlements is the fact that the majority of programmes for peri-urban areas are based on inadequate laws passed by the former colonial government. Similar comments were made with regard to other African (W52) and Asian (W46) countries. A case study on Egypt (W203A) reveals that an old law, passed when Nasser was in power, has held back the legal recognition of peri-urban settlements.

Some authors have shown that an excessive rigidity of the laws or, equally pernicious, too many laws, also constitute constraints on WSS service extension to peri-urban areas. According to P. Rogers of the World Bank (C251), for example, there are too many laws in the water supply sector, perpetuating inefficient and un-economic rigidity, fostering political neglect, trampling on local customs and making false distinctions where there should be none (e.g., dealing separately with surface water and underground water).

As for positive steps towards tenure legislation there is - unfortunately a rare exception - the new Brazilian Constitution of 1988, endorsing the social function of land tenure. The new constitution has supplied a legal basis for local interventions to upgrade and legalize the *favelas* (W206).

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c) Procedures and tools for collecting information on peri-urban settlements for planning, design and cadastral purposes

Another controversial issue concerns the usefulness of, and the capacity to gather, planning, design and cadastral information on peri-urban settlements.

Some studies start out by stressing the lack of clear delimitation of the administrative boundaries of cities. One author points out, with reference to the situation in India (W267), that many slums are located outside the jurisdiction of municipalities and WSS boards, and that it is thus legally impossible or, at any rate, pointless, to carry out cadastral or topographical surveys of such settlements.

BOX 3 - INFORMATION TECHNOLOGY FOR COLLECTING AND CATALOGUING DATA ON INFORMAL SETTLEMENTS

Multilateral and bilateral development organizations such as Italian MAE/DGCS and UNCHS (Habitat) are successfully testing the use of information technology for collecting, processing and making available urban development information and data on informal settlements (W130, W118).

For example, at Belo Horizonte (Brazil), the Italian NGO, AVSI, is operating a CAD Laboratory using applications that simplify the management of cadastral and socio-economic data. These data, which are used to issue property titles to settlers in "favelas" under the municipal programme designed to settle the tenure issue (PROFAVELA), are also made available to the municipal company charged with the upgrading of informal settlements (URBEL). Thanks to information technology, URBEL and AVSI can work in close contact with the community, deciding together on intervention priorities and modalities.

UNCHS (Habitat) has developed a computer application called ViSP (Visual Settlement Planning), designed to visualize the potential effects of various upgrading interventions in informal settlements. The software uses state-of-the-art image-processing technology to assimilate photographs, slides, video images, aerial photographs, satellite images and maps and produce high-resolution scenarios. It can be used to illustrate different alternatives to politicians, public officials and citizens, fostering fruitful interaction amongst them. It is envisaged that the ViSP system will soon be field-tested in Kenya, within the framework of Habitat's City Data Programme, which envisages underpinning data collection and the development of an urban key-indicator system.

BOX 4 - LESSONS LEARNED

Legal recognition presents different problems in different places.

- *In Lima, Peru (C152), in order for a group of low-income families to have a parcel of land to build on legally, it must be assigned land abandoned by the state, submit a building project and wait for the building permit - a process which takes seven years on average.*

- *In Yogyakarta (Indonesia) (W72) it was found that many landowners do not possess a deed to property, since they consider it useless to hold a piece of paper which could be lost or destroyed.*

- *The "Bhaktapur Development Project" (Nepal) (W29) has essentially had to abandon its original objective of upgrading buildings and infrastructure (government buildings, road repair, and the like) to tackle instead the uncontrolled urban growth, which required a programme regulating land use. The latter is still being implemented, amidst considerable difficulties.*

More in general, the case studies show that implementing an approach based on legal recognition requires:

- the establishment of clear objectives at the planning stage of the intervention;
- the preparation of ad hoc legislative schemes;
- the adoption of simplified administrative procedures;
- the full involvement of the population, and particularly of those who already play a role in the coordination and management of community activities on-site.

With regard to the availability of information, moreover, it is normally difficult to find documents or certificates of ownership of land or housing.

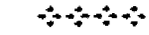
A study of peri-urban settlements in Yogyakarta (Indonesia) reports, for example, that in the *kampung* (shanty towns on the outskirts of the city) many citizens do not keep their title-deeds because they consider them useless bits of paper (cf. box 4).

Moreover, topographical and cadastral surveys may be unfeasible for lack of skilled personnel, as illustrated, for example, in the study on legal recognition efforts in Brazil (W255).

Collecting meaningful urban development information can, however, be facilitated by simplified survey techniques. For example, in the city of Mopti (Mali) (W97), preparation of the master plan for urban development was based not only on traditional survey data - which, by itself, supplied inadequate strategic information for preparing the plan - but also

on information from a questionnaire aimed at pinpointing problems and solutions raised by the different administrative, economic and social entities involved. The answers to the questionnaire were then analyzed and tabulated, and served as a basis for drafting the general outline of the plan.

Other studies (W130, W118), instead, mentioned the possibility of using personal computer applications for operations such as cadastral registration or topographical mapping. Such computer applications have proven useful in upgrading interventions in informal settlements in Brazil (cf. box 3).



Recommendations

a) Basis for action

1.11. Full legal regularization of land tenure should not be considered a pre-requisite for water and sanitation service provision. Local governments and utilities should work together to identify the minimum level of legal recognition of settlements that is necessary to guarantee security of tenure and to provide services, and gather data and information on peri-urban settlements in order to plan and design sustainable extension of service coverage (1).

1.12. The extension of basic services should be based on *mutual recognition* between authorities and peri-urban settlement communities. The involvement of peri-urban communities and their willingness to pay for services, and the commitment and capacity of local governments and WSS utilities to provide services to informal settlements should both be considered indispensable requirements.

b) Guidelines for immediate action

1.13. Governments should give utilities the legal right to provide water supply and sanitation services to illegal settlements, by not subjecting this action to the unreasonable requirements of formal master plans.

1.14. WSS utilities should encourage and support the establishment, on the part of local governments, of a single "authority" or "office" with competence on land use and tenure regularization in informal settlements (permits, property titles, cadastral registers, etc.), capable of speeding up the achievement of the minimum level of legal recognition necessary for providing services.

1.15. ESAs and governments should employ trained intermediaries (e.g. "paralegals", or barefoot lawyers) to work as legal aides and legal advocates at the community level. NGOs can also take the initiative in addressing legal issues at the local level, by employing "paralegals", and can themselves be utilized as intermediaries by ESAs, governments and utilities.

1.16. Institutions possessing useful information on informal settlements - local governments, utilities, property registries - should set up and jointly manage "interactive" cadastral databases in order to facilitate the evaluation of applications for land regularization and to coordinate information management among different sectoral spheres of competence.

1.17. Available computer applications for the acquisition, management and analysis of topographical, cadastral and socio-economic data on peri-urban settlements should be disseminated by ESAs, and subsequently by national sector agencies, to enable local governments, utilities and NGOs to plan and implement settlement upgrading initiatives.

1.18. Governments should ensure women's access to security of tenure, for instance by removing existing

obstacles to their signing contracts or deeds together with their male partners - or without them, in the case of women-headed households.

c) Further Recommendations

1.19. National governments should promote land regularization policies and provide the necessary legal framework, while decentralizing the management of the legalization process to the local municipal level.

1.20. National and/or regional governments should enact legislation to enable local authorities to provide services to settlements that fall outside their territorial jurisdiction but are part of their urban structure.

1.21. National governments should create a legal and regulatory environment conducive to the development of incentives (tax rebates, access to credit, etc.) for those investing in home improvements and contributing to service maintenance.

1.22. National governments should set in place legal mechanisms and instruments to eliminate the obstacles precluding the access of women, especially single women and women who are heads of households, to land tenure regularization.

1.23. National and local governments should operate for the introduction of innovative administrative procedures capable of speeding up regularization of tenure, including the reduction of the number of administrative steps required.

1.24. To the greatest possible extent, ESAs should incorporate into their policies and project appraisal procedures the recognition of local patterns, at all levels, of service provision in areas with irregular/illegal status.

1.25. ESAs are invited to establish records of experiences and lessons learned from their activities that could benefit future planning and implementation of peri-urban WSS services. This should also apply to research done by NGOs, universities and other research institutes.

1.26. Political advocacy for the legal status issue is recommended on all levels.

Notes

(1) Mutual recognition and the gradual upgrading of peri-urban settlements may then lead, in due course, to full tenure regularization. Indeed, tenure regularization can be seen as a step somewhere along the upgrading process, which is based on mutual recognition.

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Chapter 2
Peoples' Participation

Chapter 2 discusses the problematique regarding citizens' participation, i.e., the ways in which citizens as individuals or in organized groups in peri-urban areas can be involved in WSS services planning, implementation, management, maintenance, evaluation and monitoring.

The theme

2.1. For over a decade, the major international development organizations have been concerned with the participation and involvement of residents in urban upgrading interventions, in the management and maintenance of infrastructure and services and, more in general, in development projects. The participation and mobilization of citizens are considered indispensable to the success of any policy or project regarding: the environment (cf. Worldwatch Institute, 1990-92; Agenda 21, 1992), health (WHO, 1989), urban development (Habitat, 1988), cost containment and economic sustainability of public services (World Bank, 1988-92) and, in general, the area defined as "human development" (UNDP, 1991-92).

Citizens' participation is also a major feature of Primary Environmental Care (PEC), a strategic approach first proposed by Italian Development Cooperation in 1989, and now being considered for adoption by other organizations, such as UNICEF (MAE/DGCS, 1989, 1990, 1991, 1992; and UNICEF, 1993).

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2.2. In order to illustrate the key importance accorded to citizens' participation in ensuring that development projects are effective - even from the technical standpoint - it should suffice to refer to recent policy lines adopted by major organizations dealing with urban development, i.e., the World Bank, UNCHS (Habitat) and the OECD Development Aid Committee (DAC).

The World Bank, for example, in recent issues of the *World Development Report* (cf. *World Development Report*, 1988-1991) considers citizens' involvement a key ingredient of the success of policies aimed at cost reduction and recovery in public and social services and for a greater effectiveness of environmental sanitation projects. Specific studies assessing the effectiveness of citizens' participation in projects promoted by the World Bank (cf., e.g., S. Paul, 1987; M. Cernea, 1988) show that in 80% of the cases (in 40 out of 50 studied), citizens' participation fostered greater efficiency and effectiveness of the projects, favoured cost sharing by the beneficiaries and improved organizational and management capabilities at the local level.

In the case of UNCHS (Habitat) and of the Development Aid Committee of OECD (DAC-OECD), it is significant that the recent joint position paper submitted by the two organizations and the World Bank to the DAC Meeting on Aid for Urban Development held in Paris in November 1992 (cf. DAC-OECD, 1992), cites among the main features of desirable new policy orientations on aid for urban development the involvement of individuals, groups, communities and NGOs, by accepting responsibility for, and also having a say in, land use and public expenditure (see pp. 15 et seq.).

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2.3. It should also be noted that sociological and socio-economic research have induced international development organizations to pay closer attention to the marked ethnic, cultural, religious, political and economic heterogeneity of the communities where programmes are being implemented. One recent result of this is the current disenchantment with abstract or ideological models applied to groups of people (such as "community", "family", "citizens" and the like). In particular, there is a new awareness that peri-urban settlements are composed of individuals and groups with significant differences in professional qualifications, income, cultural attitudes, education, political and religious convictions, ethnic loyalties, etc. (cf., e.g., WG/U Background Paper, 1992; M. Vaa, 1992).

Citizens' Participation in the texts examined

2.4. Of the first four key elements of the Strategy Outline mentioned in the introduction, citizens' participation is the subject most often treated in the studies analyzed (in 53.7% of the cases).

Incidence and prevalence of topics (*) in the studies examined (the total does not add up to 100% because several topics may have been dealt with together in a given study).

	studies in which the topic is present	studies in which the topic is prevalent
Citizens' Participation	53.7%	31.5%
Cost Recovery	48.5%	21.2%
Appropriate Technologies	42.7%	20.2%
Legal Status	27.5%	4.0%

(*) These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements.

2.5. This unexpected prevalence of popular participation over the other, more "technical", subjects may be due to at least two other factors, in addition to the gradual adoption of the above-mentioned participatory development strategies.

2.6. The first factor is the production of a large number of studies, census data and statistical surveys demonstrating the growing importance in recent years of non-traditional social subjects grouped under a number of different labels: NGOs, third sector, volunteers, citizens' movements, social movements, self-help groups, non-profit sector (cf. AICAS-CERFE, 1992; Worldwatch Institute, 1991; Berg, 1987; World Bank, 1983-1987). In this context it should be noted that networks of researchers and grassroots organizations are also emerging in the WSS sector (NGOs, committees, groups, etc. concerned with water supply and sanitation), as, for example, REDES and CIUDAGUA in Latin America and the International Secretariat for Water (ISW), based in Canada.

The second factor for the prevalence of the subject is the surprisingly high level of recognition among professionals in the WSS sector (engineers, civil servants, technicians) of the importance of citizens' participation.

2.7. The main subjects covered in the studies dealing with citizens' participation are the following:

- the concept of participation and the criticism thereof;
- methods to improve participation;
- the importance of local community leadership;
- gender issues;
- the informal sector and its recognition by the public authorities;
- the role and significance of urban social movements.

2.8. Although citizens' participation has the highest incidence in the studies among the key elements mentioned above, its distribution among the studies, and therefore the importance attributed to it, is not homogeneous. In fact, citizens' participation has a high incidence in studies authored by networks interested in WSS (networks of various types of organizations such as urban research institutes or NGOs) (100% of the cases), NGOs, local governments, environmental research centres, social and urban research centres and international organizations (60-80% of cases). Yet, popular participation does not seem to be particularly significant for other organizations significantly involved in the WSS sector, such as bilateral cooperation agencies, university departments such as engineering, architecture and urban planning, and economic research centres (less than 40% of the cases).

Incidence of the Citizens' Participation issue by type of organization (%)

Networks of research centres and/or NGOs	100.0
NGOs	80.6
Urban research centres	77.7
Environmental research centres	75.0
Local governments	70.0
Social research centres	69.0
International organizations	65.0
Bilateral cooperation agencies	38.6
Urb./arch. university depts	37.8
Eng./tech. university depts	35.7
Economic research centres	35.7

2.9. The analysis of constraints and options (see #2.10) and the table below show that although popular participation enjoys an overall high profile in the studies examined, it cannot be taken for granted that it is duly considered by all the players involved in the WSS sector. Indeed, citizens' participation is often associated with cost recovery, somewhat less often with the subject of appropriate technologies and, even less often, with the regularization of the legal status of informal settlements. On the whole, the authors of the studies seem to deem citizens' involvement essential for an effective policy of cost recovery in the WSS sector or for infrastructure maintenance, while they believe it is of secondary importance for legal recognition of property rights and the creation of land use regulations, as in the case of right of ways.

Incidence of Citizens' Participation in association with other subjects (*)		
Participation & Cost Recovery	106	54.6%
Participation & Appropriate Technologies	84	43.3%
Participation & Legal Status	54	27.8%
Incidence in total number of studies	21	100.0%

(*) *These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements.*

Resources and Constraints

2.10. It should be noted that, in the studies examined, participation is generally seen in positive terms. It is considered one of the major factors for the success of projects. Participation, as implemented this far, however, is sometimes subject to criticism; it is argued that on occasion it may constitute a constraint on implementation of projects. The studies naturally also dwell on the advantages and opportunities created by citizens' participation.

CONSTRAINTS AND CHALLENGES

- ○ *cost and complexity of citizens' participation*
- ○ *poor civic sense and hygiene education of many settlers*
- ○ *limited capacity of grassroots organizations to mobilize communities*
- ○ *lack of qualified personnel and a professional approach on the part of NGOs*
- ○ *negative influence of stereotypes (e.g., regarding women or the population of informal settlements in general) held at times by those implementing projects*
- ○ *limitations of the traditional fora for participation, especially public meetings*
- ○ *negative impact of the failure to take into consideration, or the underestimation, of cultural diversity*
- ○ *conflicts between communities and international cooperation agencies*

OPTIONS AND RESOURCES

- *mobilization and organizational capacities of citizens' organizations* ☐
- *greater effectiveness of the projects in which citizens' involvement is achieved* ☐
- *positive effects of women's participation* ☐
- *effectiveness of NGOs in mobilizing economic resources* ☐
- *effectiveness of citizens' participation under the guidance of implementing agencies* ☐
- *effectiveness of citizens' organizations in planning, implementing and managing WSS services* ☐

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2.11. As is evident from the list of constraints and options identified in the studies, there are a number of aspects of citizens' participation that merit further analysis. For one thing, the studies differ in their assessment of certain aspects of citizens' participation, treating them in some cases as a resource or option and in others as a constraint. It seems useful to examine some of the constraints and options related to citizens' participation mentioned in the studies, classifying them into five main groups:

a) effectiveness and usefulness of participation;
b) potential and capacity of grassroots organizations;
c) conflicts and forms of cooperation between communities and external support agencies;
d) existing stereotypes on the nature of peri-urban communities;
e) failure of traditional forms of participation such as public meetings.

Before going on to examine some examples, a note should be made of two recurring constraints not specifically mentioned in the studies. These are, first, the usual complaints regarding the lack of

BOX 1 - SUCCESS STORIES

Of the 67 projects fully reviewed in the 271 documents presented, 31 turned out to be successful. Nearly two thirds of them (19) attributed a major role to citizens' participation.

In the town of Kamanga, near Lusaka (Zambia) (W119), citizens' participation played a key role in implementing WSS and social services.

The study reveals that participation was implemented in 6 stages. The first stage was to identify community leaders. The second stage was to hold public meetings to illustrate the spirit and purpose of the project, with an aim towards setting up a Residents' Development Committee (RDC). The third stage was to assign priorities to the various needs expressed in public meetings. This was followed by briefing sessions with dwellers of groups of tenements, seminars for local leaders (for training on management techniques) and follow-up sessions. The study emphasizes that in addition to providing the services planned, participation fostered a strong sense of solidarity among residents and the significant participation of women. The study also noted, however, that constant support from the implementing agency was required, especially with regard to supplying information on work progress and the future of the project. The study goes so far as to identify people who could have prevented the success of the project, specifically some local politicians who tried to manipulate the project to their own advantage: this problem was solved by a public debate between these politicians and the local community. A minor "crisis" due to the heavy workload of some members of the Residents' Development Committee was solved by the creation of sub-committees, which also led to greater delegation of powers and decentralization of the activities.

The upgrading programme in the "favelas" of Belo Horizonte (Brazil) (W130) included active participation of the "favelas" residents' organizations, of their federation, the "Unido dos Trabalhadores da Periferia", of citizens' associations for the establishment of day-care centres, small urban farmers' associations and church organizations.

In the sanitation project in Maina (Kenya) (W237C) there was at first strong local opposition to the projects, which had been conceived by the implementing agency on a purely technical basis. Thus a second stage was undertaken, seeking greater local cooperation. This led to the setting up of an umbrella organization and a self-help committee, which went on to eventually undertake independent initiatives in the field of health care.

The Dhalko Urban Community Development Project in Nepal (W29) was implemented through cooperation between government agencies, the Durga Parivar Club and some User's Committees that supplied free labour.

responsible people with whom to negotiate (which means that in many social contexts there is always someone to negotiate with, even though problems may arise afterwards), and, second, the longer time frames required for the implementation of projects based on participatory approaches. Such longer time frames are normally at odds with the programming requirements of implementing agencies.

a) Effectiveness and usefulness of participation

With regard to the effectiveness and usefulness of citizens' participation, one of the studies, on projects funded by the European Development Fund (W53), for example, notes that some of the negative effects of utilizing grassroots organizations include higher cost of projects, while a general study on housing policy (W188F) states that projects based on local citizens' involvement have a higher cost than traditional projects, favouring the better organized sectors of the community to the detriment of the destitute poor. Similar concerns about the high cost of popular participation are also voiced in the case of Ecuador (W88A2).

Other case studies conclude that citizens' participation facilitates implementation of projects. A study on settlement upgrading in Brazil's *favelas* (W93), for example, maintains that citizens' participation is positive, since it increases the community's confidence in its public counterparts, rationalizes the various stages of the project on the basis of knowledge of the physical and social condition of peri-urban settlements, and involves the population in the maintenance of infrastructure and community and social services. Another study, on a project at Mahalapye (Botswana) (W237B), affirms that the construction of 3,000 latrines was only made possible by citizens' participation.

b) Potential and capacity of grassroots organizations

With regard to the actual potential of grassroots organizations, a study assessing the Indonesian experience (W250) notes that NGOs are unable to provide administrative and technical know-how, and that when insufficient outside technical assistance, training and supervision are provided, the quality of infrastructure and services suffer. A

study assessing a drinking water project in Guatemala (W62) also points out difficulties in the setting up of citizens' cooperatives (resentment, delays, reciprocal mistrust).

However, many examples mentioned in the studies examined emphasize specific capabilities and potential of grassroots organizations. A Honduran NGO (W120), for example, was especially successful in supporting low-income families by promoting income-generating activities. In Bangladesh (W81), some NGOs successfully undertook fund raising campaigns to broaden the resource base for WSS services.

Some cases specifically refer to the positive impact of the activities of grassroots organizations in the following areas:

- NGO involvement in the management of services: NGOs manage sanitation and waste water collection in Karachi, provide water supplies in Abidjan, and organize refuse collection in Calcutta (W298B);

- participation through users' payments in the coverage of the cost of water supply. The willingness of the local population to pay for service is mentioned in several studies, for example, in Quito (Ecuador) (W27), in Guatemala (W26), in Itringa (Tanzania) (W218) and in Villa el Salvador and Barranquilla (Colombia) (W8SA1);

BOX 2 - LESSONS LEARNED

The "Kanpur/Mirzapur Environmental and Sanitary Engineering Project" (India) (W116) had among its objectives the reduction of pollution in the Ganges, the construction of sewers and latrines, the supply of water, the removal and treatment of solid waste and the setting up of educational programmes in the health and hygiene sectors. The studies mention a number of difficulties in the implementation of the project. Citizens' participation was relatively selective, since the objective was to select and train 500 "agents for change" (physicians, primary school teachers, volunteers etc.) in the two cities concerned. In many cases these agents tried to mobilize the citizens "top-down", without identifying specific parties to negotiate with and without any coordination between the timing of citizens' mobilization initiatives and that of the construction work. The lack of coordination in timing was also observed in the training stage.

The objective of the Enstap Project in Emadole (Nepal) (W29) was to construct latrines, with the active cooperation of the local population. The study notes that the latrines were properly built and that users carry out maintenance. It also notes, however, that there was only partial participation: indeed, local leaders had not been involved and no users' committees were set up to create an institutional framework for participation, providing a starting point for sanitary education and training. Thus, the study notes, the serious problem that children are not instructed to use the latrines that have been built is not at all surprising.

BOX 3 - WOMEN'S PARTICIPATION

A particularly significant case (C176) concerns the outskirts of Nairobi. In 1988, the AHF (African Housing Fund) financed an association of 200 women at Mathare, one of the city's largest and poorest slums. The association, called HUMAMA, is formed mainly by single mothers earning not more than US$ 26 per month. Moreover, all the women were squatters on private land and risked eviction. With a loan to HUMAMA, the AHF provided incentives for the development of economic activities based on production of building materials for shelter improvement (i.e., roof tiles, bricks etc.). The factory now produces 3,400 tiles per day, and the AHF has helped the association secure a contract worth US$ 205,000 for the supply of roofing materials.

- planning: positive results have been noted, for example, in Mopti (Mali) (W97) and in Diadema (Brazil), where settlers took part in preliminary studies for an upgrading project in the *favelas* (W12). In Addis Abeba (Ethiopia) and at the sprawling *favela* of Rocinha (Rio de Janeiro, Brazil), citizens' involvement resulted in a positive change in the official goals laid down in the original plans, which had been drawn up along excessively traditional lines (W295);

- implementation of the projects, especially through the construction of WSS infrastructure: community groups provide unskilled labour free of charge (W88E1, C180F). The study on Cuzco (Peru), points out that local unskilled labour can be utilized even in technically advanced projects, provided project managers accept to carry out construction work in an unconventional way, adapting to local customs (W88E1);

- involvement of citizens in WSS services management this can take various forms, from taking on full responsibility for maintenance to joint management. Local service maintenance was experimented in Karachi (Pakistan), where local construction workers were trained to build latrines and maintain them thereafter (W269). Joint management of WSS services was tried in Cuzco (Peru) (W88E1), where joint administration by citizens and government managers proved most effective because it built on the citizens' capacity to organize - acquired during construction of WSS infrastructure - in the management of services (in this particular case, citizens' participation in construction had consisted in providing free labour).

c) Conflicts and collaboration between communities and external support agencies

Another constraint on citizens' participation has been the occurence of conflicts between communities and development agencies. A WHO report (W28) notes that one of the reasons for poor participation of citizens may be resentment felt by the community towards outside experts who know little about the local situation and seem to seek personal gain from projects. Another case in point is the Maina (Kenya) (C216) project, where the Danish development team found initial hostility towards the installation of latrines.

Some studies also note that participation under the guidance of implementing agencies - especially development agencies - improves the chances of success of a project. Special techniques and methods are important for this purpose. The UNDP PROWWESS initiative illustrates this approach. The authors of a manual written under this programme on tools to encourage citizens' participation (W84), show that the SARAR method (*Self esteem, Associative strength, Resourcefulness, Action planning, Responsibility*) was applied successfully, and with great enthusiasm on the part of the field staff, in numerous projects and workshops. Its adoption brought out new ideas and helped produce positive results. Another example is the experience of a working group at Rocinha (Brazil), which conducted a practical test of the citizens' participation approach for the creation of community services. According to the authors of the study (W295), the results convinced the government's social development secretariat to apply the approach on a wider scale.

d) Current stereotypes on peri-urban communities

Among the constraints on effective citizens' involvement is the lack of detailed information on peri-urban settlements and on how citizens organize in these areas to try to satisfy basic needs and protect their rights, even with little or no outside help. Such lack of knowledge fosters stereotypes, as pointed out in study C247, which stresses that the widespread notion according to which high population density is synonymous with violence and unsanitary conditions is an obstacle to the implementation of projects in peri-urban areas. With regard to women's

BOX 4 - POSITIVE ASPECTS OF CITIZENS' PARTICIPATION IN THE 67 DEVELOPMENT PROJECTS STUDIED

The studies specifically mention positive aspects and elements conducive to the success of citizens' participation, which include the following:

- creation of new citizens' organizations, which may lead to further independent and self-help projects;

- the role of local NGO networks in providing credit to the poor;

- the role of NGOs in effectively reaching the urban poor;

- cooperation between municipal authorities and NGOs;

- integration between citizens' participation and government activities;

- implementing initiatives based on the recognition of local leadership and support to existing organized groups;

- involvement of existing human resources on-site;

- inclusion of citizens' representatives in specialized technical departments;

- cooperation between various organizations and institutional players;

- constant interaction between project and community;

- organization of regular public meetings;

- involvement of, and establishment of mechanisms for coordination between, different local, national and international organizations;

- identification of specific "loci" for community participation (existing or future local organizations).

- clear definition of roles and identification of ways in which the community can participate (division and execution of work, financial management, selection of areas for implementing projects, definition of priorities, documentation of works, etc.);

- identification of concrete possibilities for implementing the principles of autonomy and self-management;

- granting to citizens' organizations a degree of administrative control;

- formation of users' committees;

- constitution of "upgrading companies", i.e., intermediaries between local stakeholders and WSS agencies or municipalities whose function is to manage projects and secure an adequate level of user consensus;

- constitution of administrative committees or service cooperatives, composed by representatives of the communities concerned, for the security and maintenance of the installations.

participation, a study by Amelia Fort (W83) points out that the participation of women is often relied upon in WSS-related projects because it is commonly believed that women have more free time, whereas in fact they often have two or three times the work load of men.

Lack of knowledge on socio-cultural dynamics in peri-urban settlements is a major cause of project failure. For example, a study on the *kampung* in Indonesia (W72) reports that mobilization of settlers to improve housing in neighbouring areas is hindered by the fact that they are bound to the land they occupy by a quasi-feudal system of obligations. Another study comments on the experience in Karthoum (Sudan) (W158), where it was observed that for reasons of privacy, latrines were seldom used by women, and then only at night.

e) The failure of traditional forms of participation

One of the factors hindering citizens' participation pointed out in the studies is adherence to traditional forms of participation, especially with respect to public meetings. A study on citizens' participation in urban programmes in Denmark (C180G) offers a detailed list of the problems incurred by public meetings: they are the ideal place to foster conflicts; a compromise is difficult to reach; it is difficult to record the opinions expressed; and those who speak out are not always the true leaders. A UNDP study on citizens' participation in developing countries (W84) maintains that the main constraints on participation through public meetings are: shyness in the presence of the authorities; fear of speaking out in public; mistrust of those in power; reluctance to run risks; fear of criticism for having violated traditional roles; faction-related conflicts; a sense of impotence and fatalism. On the other hand, other studies report positive experiences with public meetings between implementing agencies and the community.

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Recommendations (1)

a) Basis for action

2.12. Partnership is an essential feature of the provision of water and sanitation services. To guarantee adequate project design and efficient and effective management, the partnership needs to include all the agencies involved (government agencies, utilities, banks, NGOs, grassroots organizations and consumer groups).

Governments, with the support of ESAs, should therefore provide the legal, institutional and policy framework that is necessary to ensure this partnership and remove obstacles preventing people's participation, especially those hampering the full involvement of women.

2.13. Organizing effective people's participation in the development and management of water supply and sanitation requires specific skills and outreach services on the part of government agencies, WSS utilities, non-governmental and grassroots organizations. ESAs should provide opportunities for capacity building specifically aimed at enabling the above organizations to implement participatory projects.

b) Guidelines for immediate action

2.14. Local governments and WSS utilities should establish specialized units or cadres to deal with peri-urban communities and should implement awareness and information programmes to encourage positive staff attitudes towards people's participation.

2.15. Particular attention should be paid, when formulating projects, to the instruments - the "tool" of participation, the modalities of public meetings and consultations with community members, and the like - to be used to ensure that women are involved and that their opinions are taken into account. Special pacience and perseverance should be put into ensuring that women's resistance to participation - such as difficulties in expressing themselves before a formal, male-dominated audience - are overcome.

2.16. To assess the potential of a particular project activity, it is necessary that the implementing agency (whether ESAs, governments, NGOs, WSS utilities or an association thereof) map the resources available, not only in relation to technical and financial inputs, but also to human resources, i.e. individuals and groups whose opinions carry weight in peri-urban communities and whose actions can affect their development.

217. ESAs should revise regulations and conditionalities to enable people's participation in project, planning and execution, especially as concerns ESA programming requirements, since participatory approaches require flexibility in implementation and longer time frames.

c) Further recommendations

2.18. ESAs should help national and local governments and utilities to identify methods to make better use of the human resources available in peri-urban settlements, through the effective involvement of local people. Following are some examples:

a) acknowledgement of independent and autonomous initiatives undertaken by citizens' groups;

b) promotion of new activities, in areas where the collective will of citizens has not yet turned into specific action;

c) identification of specific roles for citizens in the different project stages (planning, implementation, management, monitoring and evaluation);

d) promotion of the involvement of citizens in various activities - service maintenance, monitoring of leakages, hygiene education, etc. - in which it is potentially beneficial.

2.19. ESAs, governments and utilities should avoid approaches to participation that are excessively "top-down". Preference should be accorded to the involvement of existing local groups and organizations (NGOs, committees, associations, volunteer groups, etc.). New organizations should be promoted by implementing agencies only in case there are no established citizens' organizations, or else for specific tasks which require the creation of ad hoc institutions (e.g. users' committees for service maintenance).

2.20. Agencies implementing projects should make efforts to identify local organizations and participatory tools that will ensure that women's voices do come forward. The constitution of women's committees should be encouraged in those societies where women do not come forward in community meetings.

2.21. Since the participation of users is a necessary element and not an "optional", ESAs, governments and utilities should adapt projects to the need of involving citizens in the various phases. This entails, among others:

a) accepting changes in project goals emerging from participation;

b) adapting project time frames to the need of ensuring adequate participation;

c) adapting infrastructure construction techniques to the need of involving citizens' unskilled labour;

d) adopting the most suitable institutional arrangements for ensuring citizens' participation.

2.22. ESAs and NGOs should contribute to the development of a new attitude towards target populations, seeing "beneficiaries" of projects as "users" or "clients". This would be a preliminary and necessary step towards the sharing of responsibilities related to WSS services.

Notes

(1) The Primary Environmental Care (PEC) approach may offer guidance for the implementation of participatory processes in peri-urban settlements.

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URB

Chapter 3
Cost Recovery and Resource Mobilization

Chapter 3 highlights issues and problems concerning cost recovery in peri-urban WSS projects. Specifically, it discusses the capacity to mobilize local economic resources for WSS service coverage in peri-urban areas through tariff policies, access to credit and other methods, and the management of financial resources made available by external support agencies.

The theme

3.1. The growing interest of governments and international development agencies in cost recovery is part of an overarching change in public policy in industrialized and developing countries alike.

Such change is driven by the need to reduce - or at least to contain - public spending, in light of burgeoning deficits in most countries. Spiralling deficits are caused in part by acceptance of the Welfare State model, or similar models that envisage a strong State role in the delivery of services. The main international financing agencies tend to support this change and have proposed structural adjustment programmes.

The term "cost recovery" refers to policies and specific initiatives for assessing and recovering the cost of WSS services. Such initiatives include the establishment of adequate tariff systems, efforts for the control and reduction of physical water losses and unaccounted-for water in general, mechanisms for facilitating users' financial participation and others.

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3.2. There appear to be two main approaches to the issue of cost recovery (cf., e.g., S. Cairncross, 1992; World Bank 1992; R. Ayres, 1983). One is the "traditional" position, according to which water is a public good that should ideally be distributed free to everyone. This position envisages a strong State role in the financing, delivery, and management of WSS services. It endorses the idea that tariffs must be kept low and that unrecovered costs should be covered through fiscal provisions. This is the policy that has been adopted - and not only in developing countries - for years, and still provides the economic framework for WSS service management in many countries.

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3.3. Recently, however, concern over spiralling public debt in developed and industrialized countries alike, coupled with growing awareness that water is a limited resource and that the majority of institutions responsible for the provision of water-related services are not able to cover their costs or avoid wastage, has given currency to the notion that water should be recognized as an economic good for which it is right to pay (World Bank, 1992; T.S. Katko, 1992; L. Lovei, 1992; ACC/ISGWR, 1992).

Thus, the cost of WSS services should be considered chargeable first and foremost to individual users, and not to the "collectivity" at large. This means that service coverage should be extended on the basis of an assessment of "effective demand", that is, the level of service potential users are willing to pay for (D. Whittington, D.T. Lauria, A.M. Wright, K. Choe, J.A. Hughes, V. Swarn, 1991; YUDP, 1991; World Bank, 1992).

Some international development organizations tend to consider effective demand as that explicitly expressed by users; others instead view it as the "latent" demand, measured on the basis of actual behaviour, e.g. the amount of money inhabitants of peri-urban settlements already pay to buy water from private vendors. It should be noted that all agree that social considerations for the protection of vulnerable groups should not be abandoned, such as support for low-income users in the form of subsidies, access to credit, and the like.

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3.4. Cost recovery, however, is a relatively new issue in the international development debate. This is evidenced, among other things, by the fact that it constitutes a recently introduced heading in document classification in the data bank of the International Reference Centre on Water Supply and Sanitation (IRC) in The Hague. Moreover, the issue is increasingly the focus of attention in the literature and in conference proceedings. In the statement issued at the conclusion of the Global Consultation on "Safe Water and Sanitation for the 1990s" in New Delhi (September 1990), a new strategy is proposed, calling for substantial reduction in the cost of services through increased efficiency, use of low-cost, appropriate technologies and the mobilization of additional funds from existing and new sources, including governments, donor agencies and consumers. At the International Conference on Water and the Environment held in Dublin in 1992, the principle was asserted that water should be considered an economic, as well as a social, good, with a value corresponding to its potentially most profitable use. The subject of financial resources for WSS services is also discussed in the UNCED Agenda 21, approved at Rio de Janeiro in 1992, and in the preparatory documents for the WSSCC Oslo Global Forum, held in 1991.

Cost Recovery in the texts examined

3.5. Cost recovery is among the topics most often mentioned in the texts examined: it occurs in 48.5% of the cases.

Incidence and prevalence of topics (*) in the studies examined (the total does not add up to 100% because several subjects may have been dealt with together in a given study).

	studies in which the topic is present	studies in which the topic is prevalent
Cost Recovery	48.5%	21.2%
Citizens' Participation	53.7%	31.5%
Appropriate Technologies	42.7%	20.2%
Legal Status	27.5%	4.0%

(*) These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements.

3.6. The high incidence of cost recovery in the studies may be due to the strategies of international organizations, such as the World Bank, which have sought to make national governments aware of the need for the rationalization of local resource management through policies such as "structural adjustment".

Yet, the more general crisis of Welfare State policies, which entails growing financial difficulties even in industrialized countries, should not be underestimated as a cause for concern over cost recovery.

The emergence of cost recovery as an issue is probably also the result of greater attention paid by WSS sector operators to making the most of local resources, and the realization that international development agencies can only provide limited aid for the development of urban infrastructure and services.

A positive aspect of this policy shift is that, increasingly, organizations and people not normally concerned with the economic sustainability of projects (notably engineers) are beginning to view it as a critical, and not subsidiary, factor.

Moreover, greater concern over economic realities often goes hand in hand with citizens' participation, as evidenced in the texts examined. Thus it is more and more realized that the building of a consensus and the mobilization of the community are prerequisites for adequate cost recovery on services, and that cost recovery is also a sort of "reality test" for participatory strategies. There is thus a fundamental passage - from both the cognitive and practical standpoint - from general and rhetorical notions on citizens' participation to a concrete, analytical approach to mobilization of local financial and human resources.

3.7. The main issues treated in the texts dealing with cost recovery are:

- initial investment costs for service extension;
- operating costs, tariff and billing systems;
- access to credit for inhabitants of informal settlements;
- cost containment through reduction of water wastage and leaks;
- measuring water production and effective consumption;
- estimating users' ability and willingness to pay for WSS services.

3.8. Cost recovery is dealt with in a substantial number of the texts examined, but the emphasis on the subject varies among authors.

In fact, while this subject is accorded considerable importance by international organizations, networks of research centres and NGO's, WSS utilities and economic research centres, the same cannot be said for bilateral development agencies, NGOs, social and urban research centres.

Incidence of the Cost Recovery issue by type of organization (%)

Networks of research centres and/or NGOs	76.9
WSS utilities	73.3
Economic research centres	71.4
Eng./tech. research centres	60.0
International organizations	59.0
Eng./tech. university depts.	50.0
National governments	50.0
Local governments	50.0
Documentation centres	40.0
Bilateral cooperation agencies	38.6
NGOs	35.5
Social research centres	25.7
Urban research centres	22.2

Resources and Constraints

3.9. The studies examined evidence negative and positive factors affecting economic resource mobilization and cost recovery.

CONSTRAINTS AND CHALLENGES

- ○ *inadequate levels of investment by international development organizations in the urban sector*
- ○ *inadequate tariff systems*
- ○ *scarce availability of credit to peri-urban sector inhabitants*
- ○ *difficulty in paying back loans on the part of settlers*
- ○ *limited ability to pay for WSS services*
- ○ *rise in land and housing prices in areas with WSS services*
- ○ *unwillingness to pay for sanitation services*
- ○ *limited cost consciousness and autonomy to set tariffs on the part of WSS service agencies*

OPTIONS AND RESOURCES

- *differentiation of tariffs according to use and income* ☐
- *citizens' willingness to pay for water, as proven by existing water vending practices* ☐
- *improvement in the quality of service as a factor in increasing users' willingness to pay* ☐
- *promotion of income-generating activities which in turn increase the urban poor's ability to pay* ☐
- *implementation of credit programmes aimed at poor families* ☐
- *use of unskilled labour, supplied free by the population, to install services* ☐
- *better maintenance to reduce wastage and leaks* ☐
- *involvement of the community in service maintenance* ☐
- *institutionalization of the informal water vending system* ☐
- *involvement of the private sector in the extension of service coverage* ☐
- *private sector involvement in service management* ☐
- *re-cycling and re-use of waste water* ☐
- *incremental service extension* ☐

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3.10. There are diverging views on a number of points among the authors who focus on cost recovery issues and problems. According to some, for instance, the inhabitants of peri-urban settlements are not able to pay for WSS services. According to others, the inhabitants are willing and able to pay for the services. Some authors view soft loans to inhabitants of peri-urban areas as a resource for WSS service extension, while others consider the strategy unworkable because of the low loan repayment rate in peri-urban areas (cf., e.g., W 132).

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3.11. At this point it may be useful to offer an overview of the constraints and successful options for cost recovery found in the texts examined. They may be subsumed under five main headings:

a) functionality of tariff systems;
b) willingness and ability to pay;
c) credit programmes;
d) community involvement;
e) private sector involvement.

BOX 1 - SUCCESS STORIES

Cost recovery is credited as a major factor in the success of 6 projects out of the 31 that can be considered successful, on a total of 67 WSS projects fully reviewed in the 271 documents.

One example is the WSS project implemented in Tegucigalpa (Honduras) in 1987 by the peri-urban settlements upgrading unit (UEBM) of the national WSS service (SANAA), with the financial support of UNICEF (W32). The objective was to extend water coverage to some outlying districts of the city. The project was based on cost sharing and cost recovery. UNICEF supplied the basic materials, equipment and technical assistance; UEBM/SANAA supplied technical expertise; and the community provided unskilled or semi-skilled labour. Part of the cost of UNICEF's and UEBM/SANAA's assistance was considered a long-term, interest-free loan to the community, payable to a special UEBM/SANAA revolving fund account by the community water board. The purpose of the fund is to provide long-term investment resources that can be reinvested by UNICEF and UEBM/SANAA for WSS service extension. Each family has agreed to pay a monthly fee to cover the cost of operating and maintaining the water supply system, the running cost of the administrative committee, payments on the revolving fund loan, plus a small margin for replacement of materials and equipment.

Other interesting cases can be mentioned:

- *The "Techo y trabajo" programme, again in Honduras (W225), which utilized local NGOs to extend credit to the poorer segments of the community (the study points out that the loans have always been repaid).*

- *The "Sites and Services Project for Urban Development", in El Salvador (W296), which tested an innovative credit scheme aimed at low-income groups of 10 individuals each.*

The texts point out other positive aspects deriving from cost recovery schemes, as well as factors for their success, such as the progressive extension of fiscal responsibility (W32); community contributions to the costs and the supply of labour; the management of funds by the community rather than the executing agency (W104); the adoption of innovative mechanisms for access to credit (W296); the promotion of income-generating activities (W29); the differentiation of tariffs according to use and income; and the involvement of the private sector in service management.

c) Functionality of tariff systems

The studies reveal various positions with regard to the functionality of tariff systems. In some cases the authors (for example, in India (W18)), lament the lack of a unified tariff policy at the national level. Other authors (cf., e.g., Peru (W88D)) point out that administrative centralization of WSS services causes dangerous tariff rigidity. The experience in Ecuador (W27), on the other hand, was that the decision of some municipalities on how to calculate WSS tariffs - on the basis of maintenance and operating costs alone - precluded recovery of investment costs.

One successful option pointed out in the studies is the adoption of a cross-subsidy tariff system. One study (W27) reports that municipal water boards in various Latin American cities manage to cover costs using this system. Families with high incomes pay more, subsidizing the cost of the service to low-income families. Cross-subsidies are made possible, among other reasons, by the fact that high-income users tend to consume more than low-income users. Another study (W 74) on the Santiago (Chile) WSS utility proposes keeping a single tariff, and helping poorer families cope through direct cash subsidies.

b) Willingness to pay

Another key factor for cost recovery is users' willingness to pay for the service.

A study on Quito (W27), in which families in 10 districts were interviewed, evidenced willingness to pay for WSS services, and a survey in Itringa (Tanzania) (W218) revealed that the population was willing to pay much more for water than the government had previously estimated. Reports by the World Bank and the USAID-WASH project suggest that data on willingness to pay can be used to define the appropriate level of service, based on the number of families that are likely to subscribe to the service and their financial resources, and to select a suitable tariff structure (W26). Users' willingness

to pay can also be measured by studying the widespread practice of water vending and reselling in the peri-urban sector, wherever a public supply is lacking (W110). Last but not least, it is suggested that willingness to pay is strictly dependent on the quality of service provided (W32).

Some studies indicate that willingness to pay may be "selective" with respect to the type of service offered. For example, in a project in Indonesia (W250) where an integrated water and sewerage system was built, the community was quite willing to pay for the water, but not for the sanitation. Other studies (e.g., W26), as mentioned earlier, report that the inhabitants of peri-urban settlements are often unable to pay for WSS services.

One way of increasing the savings and investment capacity of the population of peri-urban settlements is to encourage income-generating activities. For example, in the outskirts of Nairobi (C176), an association of local women was assisted in starting a business in the production of building materials (bricks, tiles, etc.), which enabled them to accede to a low-interest loan programme for housing improvement.

Finally, one way of solving the problem of the high user cost of water purchased from private vendors in areas with no piped water system is to institutionalize the sale of water by vendors. In Kenya, for example (W9), the water-vendors' stands are, for all practical purposes, part of the public water utility: they are licensed by the government, pay taxes and charge tariffs established by the authorities. Useful initiatives of this kind have been undertaken in other developing countries as well.

c) Credit programmes

In general, lack of access to credit is a constraint on the mobilization of economic resources by the inhabitants of peri-urban settlements. The studies mention lack of credit schemes for low-income families (e.g., Brazil (W14)), high transaction costs, lengthy approval processes, high interest rates and security requirements (W250), and the insufficient number of personnel - when there is any - allocated by credit institutions to the low-income bracket (W53).

To alleviate these difficulties, local credit programmes aimed specifically at poor families were experimented. In these programmes, the existence of organized groups to monitor repayment is substituted for the collateral and guarantees normally required to secure loans - which low-income families do not possess (C188G). One of the most interesting experiments in this area is the Cooperative Housing Foundation programme in Tegucigalpa (Honduras). The study reporting on it (W78) emphasizes that low-income families in the peri-urban sector are capable of repaying loans taken out to make gradual improvements to their homes. The Tegucigalpa programme is based on a revolving fund, which gives access to credit to a great number of families, a group at a time. Low-interest loan schemes are utilized in other places as well. In Nairobi, for example, the city has assigned 6000 parcels of land equipped with WSS services to low-income families, and made small loans available to them to build their own homes (C211).

d) Community involvement

The use of the community's unskilled labour to build infrastructure and housing (W8SE1) is another form of economic resource mobilization. In Brazil, this practice, called *mutirão*, takes the form of an organized collective effort and was successfully employed, for example, in the city of Lages (W213). Another study on Brazil (W258) cites some key elements in the success of *mutirão*, including the existence of committed and motivated political and social organizations or movements, adequate technical assistance from the utility or the municipality, and the availability of information on similar experiences which succeeded elsewhere.

In the sanitation sector, involvement of the user population in maintenance has proved to be particularly useful. In Nepal, in the Katmandu area, the cleaning of public latrines has been entrusted to families who pay a small fee and charge users for the use of the facilities. Hence the excellent state of the latrines (W29). In Brazil, the condominial sanitation system invented by an engineer from Recife has been effective in reducing maintenance costs. In fact, maintenance is assured by users through strong community involvement. If a user damages or blocks the system (for example by disposing of solid waste

into a toilet or clogging up a manhole), there is an immediate reaction from the other users, especially those upstream (W104).

Finally, mention should be made of a report on a system of infrastructure construction that makes the most of scarce resource for public investment. The main feature of the system, applied in Kor-Kor, Ununquis and Margen Derecha del Rio Huatanay, three settlements in the outskirts of Cuzco (Peru) (W88D), is its gradual implementation. The municipality only finances the first step, that is, construction of water mains and provision of public standposts. The second step, involving extension of the network and connections to individual homes, is entrusted to, and financed at, the local community level.

A similar incremental system was also experimented with good results during the 1980s, in San Salvador (W17). The city donated materials and technical assistance for a number of amenities (community centre, piped water and septic tank system). If the community complied in the construction and maintenance, it was rewarded with materials and assistance for the next stage of improvement.

c) Private sector involvement

An initial consideration is that, according to several authors (cf., e.g., W9), the problem of the high cost of water is particularly acute when the service is supplied under monopoly conditions.

Many authors agree that privatization of water boards, or at least some form of private sector involvement in running the utility, improves the efficiency of WSS services. Some studies stress that the private sector offers cheaper service than the public sector (W153). Other studies, however, are skeptical of the feasibility of privatizing WSS services. One of them (W41), for example, claims that WSS services produce such low revenues that the private sector is not interested in investing in them. Lastly, a criticism often levelled at privatization policies is that privatization only improves service quality for those who have the means to pay for it (W17).

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BOX 2 - LESSONS LEARNED

Texts describing projects also point out constraints and risks, both from the cost recovery standpoint and from the more general economic and financial management standpoint.

Some examples are worth mentioning:

- *the difficulties which immigrants from rural zones and people employed by the informal sector have in Indonesia (as elsewhere) in obtaining credit to improve their homes (C155H), since banks do not give loans without security;*

- *a project in New Georgia (Liberia) (C155L) had to cope with the incapacity of banks (which, in addition, were in serious financial trouble) to make small loans to enable low-income families to build homes;*

- *the case of the Caracas water utility (W43), which shows how relevant the problem of guarantees is to the privatization process as well: the institutional weakness of the metropolitan authority entrusted with the sale and subsequent control over utilities (no direct say in operations and maintenance, not much to offer in the way of guarantees, and lack of support from the national government) prevented it from securing the confidence of international investors (consortia of private companies backed by banks). As a result, investors made tariff bids that were too high and thus unaffordable. Hence the present stalemate, which will probably lead to an increase in tariffs anyway, at the end of the privatization process. Another study (W26) reports the failure of the attempt to improve efficiency and effectiveness of the Caracas local electricity board through privatization. In fact, the private company has shown no interest in extending coverage and tariffs are higher than ever.*

Recommendations

a) Basis for action

3.12. Sound financial management of utilities is a prerequisite for developing mechanisms to access capital markets for the financing of new investment and for the sustainability of WSS services; national

governments, local authorities and service agencies should therefore change their policies related to tariffs and cost recovery issues to reflect this principle.

3.13. It is necessary, however, to single out specific, demand-driven approaches to the question of cost recovery in the peri-urban sector, bearing in mind the prevailing social and economic situation and the specific mechanisms of the informal sector - income structures, employment levels, alternatives for savings and credit. In this context, the development of methodologies for assessing willingness and ability to pay on the part of peri-urban communities is crucial.

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b) Guidelines for immediate action

3.14. WSS utilities need to adopt modern management practices and information systems, including appropriate cost accounting, customer account management, and a consumer-oriented approach (collection of users' complaints, information and suggestions, etc.), in order to improve their efficiency and thus create a basic atmosphere of trust for possible investors.

3.15. Although full cost recovery should be the basic principle for sound financial management on the part of utilities, this criterion does not preclude the application by WSS utilities of cross subsidies between projects, consumer groups or others.

3.16. Transfer of resources from the central government should be necessary only in special situations; in those cases, it should be directed at subsidizing the demand rather than the supply, thus ensuring adequate targeting to the urban poor and sound financial management of the utility. Any government subsidies should be specific, transparent and temporary.

3.17. ESAs should launch initiatives aimed at training NGOs, banks and WSS utilities to make and recover loans in peri-urban areas (e.g. revolving fund schemes to allow households to connect to WSS networks); ESAs and governments should test incremental or gradual credit schemes, as well as the performance of groups of inhabitants and grassroots organizations in repaying loans ("solidarity guarantees").

3.18. Governments should remove the legal obstacles hampering access to credit for women, giving them the same rights as men for the signature of loan contracts. Furthermore, women's needs and opinions should be taken into consideration when devising repayment schedules and outreach mechanisms for credit schemes.

3.19. Recent research has shown that willingness to pay for improved water supply is generally high; nevertheless, willingness to pay needs to be assessed case by case and be at the basis of the implementation of tariff systems and credit schemes. In this context, it is necessary that also women be consulted, in order to understand the actual behaviour of households and their real willingness and capacity to pay. The key role played by women in building the willingness to pay of families should also be recognized.

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c) Further recommendations

3.20. Various methodological approaches may be used by utilities for the recovery of costs for service extension and for operations and maintenance; as a general rule, the calculation of costs should be based on the application of prevalent market interest rates.

3.21. Governments/utilities should promote/introduce policies which demand pay according to consumption, in the framework of an equitable city-wide cost recovery framework which also comprises peri-urban areas.

3.22. Utilities should develop charging policies, including tariff differentiation within the domestic sector, that enable the urban poor to receive basic services.

3.23. Banks and ESAs should define terms of repayment on loans for service provision to the urban poor taking into account the cash flow from such investments, in order to avoid overtaxing the financial capacity of borrowers during the initial years of negative income.

3.24. NGOs could play an important role in promoting income-generating activities at the grassroots level to enhance users' capability to pay for WSS services.

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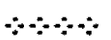
Chapter 4
Appropriate Technologies

Chapter 4 highlights issues and information concerning the development and use of appropriate technologies, in the context of the objectives of WG/U. Specifically, it reports on the requirements for the adaptability and compatibility of the various technical solutions for WSS service extension to peri-urban areas, with respect to the environmental, economic and social conditions of their application.

The theme

4.1. Generally speaking, the term "appropriate technologies" refers to traditional and/or innovative technical solutions that are compatible with the physical, social, institutional and economic environment where they are used. In the domain of international development cooperation, in particular, the appropriateness of technologies is assessed on the basis of four main criteria: low cost, integration with the physical and natural environment, acceptance by users and simplicity of operation and maintenance.

On the question of appropriate technologies, international organizations such as the World Bank and UNDP, for example, tend to focus on whether developing countries can afford the cost of technological solutions adopted by industrialized countries, while the UNCED Agenda 21 document (1992) places more stress on the problem of the compatibility of technology with the natural environment.



4.2. The issue of the adaptability of technologies to local contexts has come to the forefront in recent decades for WSS systems as well. The main evaluation studies on WSS systems carried out during or after the Drinking Water Supply and Sanitation Decade, 1981-1990 (cf., WHO, 1990; R. Garkenheimer, C. Enrique Jorge Brando, quoted in J.M. Kalbermatten, R.N. Middleton, 1991; S. Cairncross, 1992) have evidenced several problems incurred in transferring so-called conventional technologies to developing countries; by "conventional", technologies traditionally used in industrialized countries are intended. As in many other sectors in international development aid, "turn-key" projects have proven by and large unsuccessful. According to some experts (R. Garkenheimer, C. Enrique Jorge Brando, op.cit.; T. Maria Solo, E. Perez and S. Joyce, 1992) these problems are due to the over-reliance, on the part of engineers, on technical solutions based on the standards of industrialized countries.

4.3. One criterion for assessing the appropriateness of technologies for WSS systems, in the context of our objectives, is their adaptability to the particular conditions of peri-urban settlements. Some authors, for example, maintain that some of the technological solutions adopted in rural areas, which are based on collective use and community management, are not applicable to the peri-urban context (W. Hogrewe, S. Joyce, E.A. Perez, 1992).

4.4. It should be noted, at any rate, that know-how and expertise in WSS technology are abundant. As evidenced by the number of handbooks and design guidelines made available in recent years (for an overview cf. J.M. Kalbermatten, D.S. Julius, C.G. Gunnerson, D.D. Mara, 1981; W. Hogrewe, S. Joyce, E. Perez, 1992) and by the increasing number of specialized publications on WSS technologies, there are many technological options that take into account factors such as low cost, easy maintenance and availability of materials on-site. There is, on the other hand, increasing awareness of persisting problems with these technologies, such as their replicability, their maintenance by local workers and their potential for economic sustainability through user payments, considering installation and/or O&M costs.

Appropriate Technologies in the texts examined

4.5. That of appropriate technologies is not one of the topics most often mentioned in the texts examined, although it enjoys a degree of attention. The incidence of the subject (42%), contrary to expectations, is lower than that of other topics, such

Incidence and prevalence of topics (*) in the studies examined (the total does not add up to 100% because several subjects may have been dealt with together in a given study).

	studies in which the topic is present	studies in which the topic is prevalent
Appropriate Technologies	42.7%	20.2%
Citizens' Participation	53.7%	31.5%
Cost Recovery	48.5%	21.2%
Legal Status	27.5%	4.0%

(*) These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements

as citizens' participation (53.7%) and cost recovery (45.5%). This is somewhat surprising, given the importance traditionally accorded to technology and infrastructure in the water and sanitation sector (cf., e.g., S. Cairncross, 1992; J.M. Kalbermatten, D.S. Julius, D.D. Mara, 1981; A. Bosch, R. Schertenleib, 1985).

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4.6. The diminishing importance of technological issues in recent years seems anyway to be a broad trend, as confirmed at the WG/U Core Group Meeting (see Geneva Report, 1993), as well as by the latest literature on the subject (cf. S. Cairncross, 1992; J.M. Kalbermatten, R.N. Middleton, 1991).

On the other hand, the studies show that greater attention is being paid to technological aspects by entities heretofore not specifically concerned with such issues (local governments and WSS utilities in over 50% of the cases), and by organizations not specifically involved in the WSS sector (urban planning research centres and university departments), whereas engineering practitioners and eng./tech. university departments, which have traditionally focused keenly on technology, are now giving it less importance (they deal with it in 38% of the cases), favoring instead the so-called "soft" subjects (management and economic issues, etc.).

Incidence of the Appropriate Technologies issue by type of organization (%)

WSS utilities	73.3
Local governments	50.0
Urb./arch. univ. depts./research centres	45.9
International organizations	42.2
Eng./tech. university depts.	39.3
Networks of research centres and/or NGOs	38.5
Social research centres	38.1
Economic research centres	35.7
NGOs	29.0
Bilateral cooperation agencies	25.0

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4.7. The following main aspects are treated in the studies under the rubric of appropriate technologies:

- water distribution systems;
- water treatment, re-cycling and re-use of waste water, and rain-water harvesting;
- control and monitoring of leaks in water networks;
- low-cost options for building latrines and public toilets;
- selective collection and disposal of solid waste;
- evaluations on the quality of materials and execution of public works (e.g., latrines) and self-built housing.

4.8. Such a surprising decline in the importance attached to technological problems, as mentioned above, may be a sign that the narrow technical approach to urbanization and public services is being replaced by greater awareness of the economic, financial, managerial, social and political factors involved. This dawning awareness may also be due to the penetration of certain concepts promoted by international organizations in recent years, such as citizens' participation and an integrated approach to urban development, now seen as essential factors in dealing realistically and effectively with the problematique of basic urban infrastructure and public services in developing countries.

4.9. It should be noted, however, that the secondary importance attributed to topics related to appropriate technologies has negative aspects as well. Indeed, it should be stressed that some relevant questions, such as technology transfer, the definition of alternative standards, and the adaptation of technology developed in rural areas to the urban context - and, in particular, to peri-urban settlements - are seldom dealt with in the studies.

Studies that integrate technological know-how and information with other areas of specialized knowledge

Technological & Economic	30	67.7%
Technological & Political	27	60.0%
Technological & Legal	13	28.9%
Technological & Urban Planning	9	20.0%

Incidence of Appropriate Technologies in association with other elements of the *Strategy Outline* (*)

Appropriate Technologies & Cost Recovery	103	60.2%
Appropriate Technologies & Citizens' Participation	90	52.6%
Appropriate Technologies & Legal Status	49	20.6%

(*) These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements.

4.10. The studies also show that technological issues are seldom dealt with in association with regulatory and legal issues (about 20% of cases). This seems to indicate a lack of concern with the adaptability of technologies to the local legal, cultural and institutional context. Yet, implementing low-cost technologies often requires regulating tenure, or carrying out expropriations, and establishing such rights of way and easements as may be necessary to install and maintain WSS networks in informal settlements.

BOX 1 - THE BRAZILIAN "CONDOMINIAL" SYSTEM

Hundreds of thousands of residents of peri-urban areas in Brazil have gained access to sanitation services thanks to an alternative sewerage system, which is reported to cut installation costs by 70-80%, invented by an engineer from Recife, José Carlos de Melo. The key to the system, dubbed "condominial", lies in having the sewer line, connected to individual dwellings, run through the properties, rather than outside them in public land. The "condominial" system requires organization and collaboration among all users for the installation and maintenance of the system. From the legal standpoint, it requires a legal framework for dealing with right-of-ways (i.e., limitations on property rights imposed for public benefit). And even where property rights are not legally sanctioned, the condominial system requires the consent of individual users, for the installation of sewerage lines that pass through the land they occupy and to authorize access for maintenance.

Resources and Constraints

4.11. The relatively low level of attention paid to technology transfer in the studies and, more generally, to the sustainability of WSS technologies in the peri-urban sector, may be related to the greater number of constraints (30% of cases) mentioned by authors who focus on technological aspects, as compared with successful options (20% of cases). Indeed, whereas some studies highlight the existence of a wide array of service levels and technological options that are available for peri-urban WSS interventions (e.g., pit latrines, VIP latrines, pour-flush toilets, condominial or simplified systems of water-borne sewage collection, public standposts, yard-tap level of water supply, leak detectors, etc.), other studies report serious problems of adaptability and maintenance, especially concerning innovations.

CONSTRAINTS AND CHALLENGES

- *high cost of conventional WSS technologies*
- *difficulty in finding information on technology options at the local level*
- *cost and complexity of maintenance of infrastructure*
- *potential problems (related to cultural, hygienic and health aspects) in using and maintaining latrines*
- *unsuitable geo-morphological characteristics of the sites normally occupied by peri-urban settlements*
- *prevalence of a technical and engineering culture based on industrialized country standards*
- *ineffectiveness and scarce durability of low-cost technologies*
- *difficulties related to the high density of peri-urban settlements (e.g., inadequate space to build latrines)*

OPTIONS AND RESOURCES

low cost of certain technologies developed abroad, provided they are adapted to local conditions ☐

testing and dissemination in cities of innovations and alternative technology options developed in the rural context ☐

management and maintenance of infrastructure by citizens' organizations ☐

effectiveness of low-cost technologies or technologies based on local resources and materials ☐

4.12. It is apparent from the list of constraints and resources distilled from the studies that many open questions remain, regarding the "appropriateness" of technologies. Indeed, differing assessments and representations of the same phenomena are very common, with the result that they may be viewed as constraints in one context and as options or resources in another. Hence it may be useful, for analytical purposes, to subsume the constraints and resources regarding appropriate technologies reported in the studies under five main categories, as follows:

a) Technology transfer;
b) Geo-morphological features and population density of peri-urban settlements;
c) Infrastructure maintenance;
d) Effectiveness of low-cost technologies;
e) Engineering culture and the problem of standards.

A further important aspect was illustrated by some studies submitted after the deadline for this survey (31 Dec. 92). It is related to the problems that may be caused by implementing agencies if they make the wrong choice from among the various alternatives for the execution of construction work - contractors, local artisans, self-help schemes (cf., e.g., S. Cairncross, 1992; IRC, 1992).

Overall, the studies examined make no specific reference, however, to such an important constraint as the scarcity and unreliability of water supplies in peri-urban settlements, which, besides being in itself a serious problem, may preclude the use of water-borne sewerage.

BOX 2 - SUCCESS STORIES

The issue of appropriate technologies has a low incidence in the case studies examined. Only 4 successful projects (out of 31), over a total of 67 fully reviewed projects, owed their positive results to priority accorded to the choice of appropriate technologies in the planning phase. In fully 14 cases, moreover, no linkage is established between success and the employment of specific appropriate technologies.

In any case, studies do point out interesting projects in which innovation and appropriate technological options played a key role. This is the case of the Orangi Pilot Project in Karachi, reported in studies W104 and C196. The project's aim was to improve sanitation in a peri-urban area of the Pakistani town. It was almost totally self-financed by the community, and was implemented under the supervision of local technicians. Latrines, sewer mains and sewer connections to houses were built at low cost, using the free labour of the settlers themselves. Maintenance of sewer mains is entrusted to neighbourhood committees (each representing about 600 dwellings). The OPP, as it is known, made it possible to provide sanitation services to 600,000 people, by taking advantage of the "snow ball" effect.

In addition to citizens' participation and financing, the studies on the Orangi Pilot Project reveal some interesting aspects regarding the application of technology. One is the change witnessed in standard public works practice, based on traditional client-engineer-contractor relations, in favour of a new system in which distinctions between user, organizer and implementer are blurred, integrating technological and organizational know-how with artisan skills. Some innovative solutions are also pointed out to problems such as open sewage discharges, pipe blockage by solids due to lack of flushing water (solved by installing septic tanks to provide for the separation of solids) and the high cost of manhole covers (solved by reducing the diameter of the holes and developing lighter covers).

In the case of the Latrine Conversion Program in Patan (India) (C196), the objective was to eliminate the need for the removal of human excreta by scavengers, which entails very substantial health risks. Thus the project called for replacing the "dry" system with economical flush toilets requiring very little maintenance. Adoption of this technical solution made it possible to convert, over a 13-year period, 4,249 private latrines, and build 690 new private latrines and several communal latrines that serve 400 households in 16 blocks. The study reports that, during this intervention, an effective community approach and close cooperation between local authorities and NGOs involved in the project were registered.

Finally, an interesting experiment was carried out at the Kibera peri-urban settlement in Nairobi (Kenya) (W237D), using a special suction truck equipped with flexible tubing, capable of emptying latrines even in dwellings located in narrow lanes and thus difficult to reach.

a) Technology transfer

There are contrasting assessments of whether it is best to import technology from industrialized countries or other developing countries, or whether it is more effective to use technologies developed on the basis of local conditions and materials. For example:

- The report on a workshop held in India (W48) maintains that, in developing countries, instruments such as leak detectors and water meters are hard to find on the local market. Thus their use is troublesome and costly.

- A study concerning Brazil (W229O) concludes, on the contrary, that it is cost-effective to purchase technology abroad, considering the limited availability of resources for R&D in developing countries and the pace of technological change at the international level.

b) Geo-morphological features and population density of peri-urban settlements

Many studies (W161, W17, W26, W178C, W235C, C216, W229H) point out that one of the main constraints on WSS service extension to peri-urban settlements is that they are often located in inaccessible or dangerous geo-morphological sites (high slopes, flood or landslide-prone areas, shallow water tables, etc.). A fair generalization is that the geo-morphological characteristics of peri-urban settlement sites render it difficult, and costly, to provide service, and require careful analysis of available alternatives in each case.

Overall, the studies rarely mention technological innovations aimed at solving the above-mentioned natural, or physical, constraints. One water supply technology that is enjoying widespread application is the use of flexible plastic pipes (which are particularly suited to the geo-morphological characteristics of peri-urban sites) as mentioned in some studies. For instance, the same flexible plastic pipes that are successfully used in WSS systems in Finland are now being suggested by some authors for use in developing countries (W58). A similar system, which also made it possible to reduce the diameter of pipes, has been successfully tested in Diadema, Brazil (W12).

Another problem often mentioned in the studies is latrine emptying, which entails serious health risks. An interesting technical solution in this regard was tested with success in Kenya, using a special suction truck for emptying latrines (cf. box 2).

Some studies stress the difficulty of developing sanitation technology that is compatible with the high population density of peri-urban settlements (cf., e.g., W140).

Also proposed for peri-urban settlements are water supply schemes analogous to rural solutions (public standposts or equipped water points) (W52) and the construction of water storage tanks to meet demand at the settlement level. Residents, organized in management committees, can thus buy water "wholesale" from the utility; alternatively, according to local conditions, they may prefer to use wells or harvest rainwater and treat it on their own.

Other solutions to water treatment problems were found through the use of traditional technologies. Special clays (e.g., bentonite), well known to local inhabitants, have been used in Egypt in treating water from the Nile, thus lowering the incidence of intestinal diseases (W127).

c) Maintenance of infrastructures

The bottom line on the appropriateness of a given technological option for WSS service delivery is often represented by its inherent requirements for the maintenance of infrastructures and for the monitoring of their operation.

This aspect is often mentioned as one of the obstacles to adequate utilities management. In a paper prepared for WG/U by the Department for Environmental Sciences of the University of Venice (W129), for instance, the authors argue that technologies for the monitoring of WSS systems require an organizational structure that developing countries are hardly in a condition to maintain. Constraints associated with maintenance of WSS systems are also mentioned in a study on water services in Argentina (W57). According to the author, WSS coverage there has been extended, in the bigger cities, on the basis of the technological model in vogue in the 1950s (economies of scale and large plants), and now such plants, which haven't had adequate maintenance, are obsolete. A study on the situation of WSS services in India (W48) reports that

BOX 3 - LESSONS LEARNED

Several studies point out problems related to the interplay between the strictly technical aspects of interventions and those related to the involvement of users or to the management of the projects as a whole.

One example is a storm-water drainage project in Janakpur (Nepal)(W29). The study reports on frequent flooding and other problems caused by faulty construction of the drainage system, which was carried out without consulting or involving the inhabitants of the urban area concerned (in fact, the community had criticized the way the project was being carried out from the beginning). Finally, the study criticizes the poor planning and management of the project.

Problems of a different - but no less serious - nature were faced by a programme for the dissemination of VIP latrines in Botswana (W237B). One of the problems was the initial mistrust of the inhabitants towards latrines, due to an earlier accident in which two children had fallen into old-style latrine pits and died. As a result, parents did not allow their children to use any latrine, not even the new, safer, version.

maintenance staff lack the time to carry out the routine tasks related to their role, because most of their working day is taken up just by responding to users' complaints.

On the resource side, positive effects of citizens' involvement in the maintenance of WSS infrastructures are reported by studies in Karachi (Pakistan) (W269) and in Cuzco (Peru) (W88E1) (see also Working Document # 2).

d) Effectiveness of low-cost technology

Another controversial matter is the effectiveness of low-cost technologies.

On the topic of the poor performance of traditional pit latrines, that led in turn to the hostility of potential users towards VIP latrines, see the example from Botswana reported above in box 3.

A study on Yogyakarta (Indonesia) (W72) criticizes the use of technologies whose sole effect is to remove sewage from the sight and smell of the inhabitants, as, the study maintains, is the case of pit latrines. Moreover, according to the authors, the use of septic tanks may also present problems, especially since such tanks are rarely watertight (as they would be supposed to be), due to poor workmanship and the use of low-quality materials in execution. Problems with leaky septic tanks are often compounded by the proximity of drinking water wells and by the limited absorption capacity of soils. Sharp criticism is also levelled at the scarce attention paid by those applying excreta sanitation technologies to the need for integrating the various necessary phases, namely waste water collection, treatment, disinfection and disposal, in sanitation projects.

Several studies point out positive aspects of the use of traditional technologies and of techniques developed at the local level. A study by USAID-WASH (W17) mentions the effectiveness of non-conventional sanitation systems, such as the one implemented in a district of Cartagena (Colombia), which uses a shallow sewer system, based on the retention of solids in septic tanks (which require cleaning every six years), and the subsequent collection of effluent by a network of small-bore pipes.The study also mentions the case of Barranquilla (Colombia), where a local political leader demonstrated the feasibility of improving urban water supplies through the use of wells, at a much lower cost than that of a proposed extension of the existing system.

Finally, the temptation to provide the poor with *inferior services in the name of "appropriate technology"* is criticized in many studies. These authors argue that installations should be built according to the highest technological standards, since the poor are those least in a position to afford the luxury of short-lived, wastage-prone and low-performance infrastructure (cf., e.g., W74).

e) Engineering culture and the problem of standards

A final question regards the weight that should be given to traditional engineering and technical culture in the planning and design of WSS services, especially in projects based on participatory approaches, with the active involvement of the local community and individual citizens.

An evaluation study on Pakistani examples (W230) maintains that wherever only a small amount of expert technical assistance, training and supervision has been made available to citizens' groups, the quality of infrastructural works and services has suffered. Analogous considerations,

related to the quality and ready availability of technical inputs, have been made on a housing programme sponsored by the Grameen Bank in Bangladesh. An evaluation study (W4) maintains that the solutions adopted for the foundations and structure of the houses gave rise to stability problems.

Other studies, regarding projects implemented according exclusively to engineering criteria, point out that adherence to traditional technological culture has, in some projects, proven to be an obstacle to the local adaptation of WSS systems. One study (W104), for example, maintains that the use of the *condominial* sewerage system, when based exclusively on technical or engineering considerations, without adequate provision for user involvement in maintenance, leads to project failure (as in Joinville, Santa Catarina and Baixada Fluminense in Brazil). Another study (W17) points out that local engineers normally prefer to employ the technical solutions they know well, even when aware of the high cost and difficulties in the application of conventional technologies due to the complex features of peri-urban settlements.

Such conservative engineering culture is directly linked to the technical standards in force in almost all developing countries, which, since they tend to reproduce those adopted in industrialized countries, are largely inappropriate for peri-urban settlements. The same considerations hold for engineering and technological education in developing countries.

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Recommendations

a) Basis for action

4.13. Appropriate technology for peri-urban areas should not be conceptualized as mere low-cost technology but rather as technology that is tailored to fit their specific conditions: the geo-morphological features of peri-urban sites, the dynamics of growth and change of informal settlements, the effective demand regarding level of service, compatible operation and maintenance requirements and, last but not least, the criterion of affordability.

4.14. It should be borne in mind that the complex and difficult physical and socio-economic conditions that exist in the majority of peri-urban areas require a higher level of engineering skills than traditionally required for rural and formal urban water supply and sanitation services, in order to identify and develop the appropriate technological alternatives and design solutions in each case.

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b) Guidelines for immediate action

4.15. ESAs and national sector agencies should assist WSS utilities in developing guidelines to carry out assessments of available technological options. In particular, the development of performance indicators linked to the various service levels seems particularly useful in selecting the ones capable of suiting local capacity and ensuring sustainability, on the basis of efficiency in the use of inputs and in relation to evolving local realities.

4.16. Evaluation of technological options by those planning WSS projects should take into consideration that peri-urban settlements are economically productive areas, and not just residential areas.

4.17. Planners should try their best to find out directly from the main users, who normally happen to be women, what features the service needs to have; this should be one of the main criteria for technology choice. They should pay special attention to the uses of water involved in household activities - usually carried out by women - such as laundry, food preparation, washing children, cleaning the house.

4.18. The transfer of technological options from the rural to the peri-urban context should be the object of extreme caution.

4.19. ESAs should assist national sector agencies in implementing training and awareness programmes to change the attitude of utility professionals towards the selection and application of appropriate technological options, in order to overcome the rigid adherence to conventional standards that prevails in engineering culture and to encourage interdisciplinary work.

4.20. ESAs, NGOs and WSS utilities should avoid to build communal or public WSS services (e.g. water points, public toilets) on sites that are difficult to access, too distant from households, or that do not preserve the right to privacy, features that are particularly detrimental for women and children, who are the most frequent users of these services.

c) Further recommendations

4.21. ESAs, in collaboration with governments and NGOs, should include in sector programmes specific activities aimed at developing community awareness of the advantages, disadvantages and maintenance requirements of the various technology options for WSS service extension.

4.22. ESAs, local governments and utilities should try to involve small scale local entrepeneurs and artisans in the selection, design and application of technology options at the local level.

4.23. Utilities should select affordable technologies not only on the basis of the concept of short-term investment affordability, but also of the long term affordability of operation and maintenance, and, in particular, of the additional costs for service upgrading and/or repair ensuing from an initially low standard of quality.

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Chapter 5
Institutional Reform and Capacity Building

Chapter 5 highlights issues and information on institutional reform and capacity building, that is, the strengthening of the institutions responsible for the delivery and maintenance of WSS services, and the development of the human resources that are necessary for the successful implementation of WSS projects, at the level of local governments, WSS utilities, citizens' organizations and NGOs.

The theme

5.1. According to the main international development organizations, capacity building, intended as the strengthening of the institutions responsible for the implementation and management of services, coupled with the development of human resources for that purpose - at the level of local governments, utilities, citizens' organizations and NGOs - is an indispensable ingredient for the sustainability of all development cooperation programmes (IHE-UNDP, 1991; UNCED, 1992). In the WSS sector, capacity building mainly concerns the improvement of utilities management (UNDP/World Bank, 1992) and the reform of national and local government bodies involved in the extension of service coverage and management of infrastructure (UNDP, 1992; ACC/ISGWR, 1992). However, in the broadest sense, it encompasses identifying all actors working for the development and extension of WSS services, enhancing their intervention capacities and improving their mutual relations. Such actors can be individuals (professionals, experts, operators) or more or less formalized aggregations, such as agencies, institutional departments, foundations, private companies, associations, committees, NGOs, community organizations, or, in a broader sense, collectivities.

5.2. The interest of international organizations in capacity building is evidenced by the extensive treatment of the subject at important consultations held in recent years. Examples of the increasing level of attention paid to the subject are the following ideas and proposals that emerged from the UNCED Conference and from meetings organized by UNDP, the World Bank and the Development Aid Committee of OECD on WSS services and urban development.

In Agenda 21, approved at the United Nations Conference on the Environment and Development (Rio de Janeiro, June 1992) human resources development and capacity building are indicated among the fundamental means for achieving environmental protection objectives, alongside financial resources and scientific and technological tools.

The Delft Declaration, signed by those participating in the water sector capacity building symposium organized by UNDP in June 1991, asserts that institutional weakness and poor performance of many sector-agencies are a major cause of ineffectiveness and unsustainability of water projects and stresses the urgent need to build up institutional capacity at all levels. The declaration states that every country and every province or district has it own characteristics and it own specific requirements; it thus proposes that water sector assessments be carried out to help set out tailor-made strategies for each local situation.

The World Bank, during a workshop on "Capacity Building for Water and Sanitation Utilities", organized with UNDP in Brussels in May 1992, launched a research-action project - the "Utilities Partnership" - which envisages the joint, coordinated participation of utilities, governments and external support agencies. The "Utilities Partnership" proposal is based on the realization that a window of opportunity exists for implementing reforms in the WSS utilities. There are two reasons for this: first, policy-makers are increasingly aware that urban water boards or companies have a vital role to play in economic growth, reduction of poverty and improvement of the environment; and second, in this historical moment every country is questioning - in one form or another - assumptions about the role of the public sector that were heretofore taken for granted. The "Utilities Partnership" has two main aims:

- to provide decision-makers with information on why reforms are necessary and on the pros and cons of the different options for these reforms;

- to provide WSS sector managers and their staff with practical advice, based on real experiences, on what works and what does not.

The DAC/OECD, at the meeting held in Paris in November 1992 on aid for urban development, claimed that broader decision-making authority of municipal governments has to be accompanied by corresponding extension of their revenue-raising powers and performance (DAC/OECD, 1992). They should also become more accountable to citizens and increasingly autonomous vis-a-vis higher government levels. Finally, the DAC hoped for new forms of association between the public and private sectors for the delivery of urban services, to improve their efficiency and increase investment levels.

Capacity Building in the texts examined

5.3. Capacity building is dealt with in 38% of the studies examined.

The main subjects treated in these texts are:

- urban governance and national and local policies on peri-urban settlements;
- the management of WSS utilities;
- the action of external support agencies.

5.4. Capacity building is dealt with most frequently (over 40 % of cases) in studies produced by networks of research centres and/or NGOs, by international organizations, economic research centres, WSS utilities and bilateral cooperation agencies. Centres for environmental or social research, national and local governments and NGOs, on the other hand, seem to attribute less importance to capacity building.

Incidence of the Capacity Building issue by type of organization (%)

Networks of research centres and/or NGOs	53.8
International organizations	51.8
Economic research centres	50.0
WSS utilities	46.6
Bilateral cooperation agencies	40.9
Environmental research centres	33.3
National governments	30.0
Local governments	30.0
NGOs	29.0
Social research centres	26.1

5.5. Capacity building is mainly analized, in the studies examined, in association with effective WSS services' cost recovery and eliciting citizens' participation. There is, also, to a certain extent, some interest in treating the subject of appropriate technologies together with that of the institutional strengthening of institutions and organizations operating in the WSS sector. On the other hand, the link is not yet perceived between the improvement of national and local governments' capacity to intervene and the possibility of starting an effective process of legal recognition of informal settlements. Thus, the studies that deal with capacity building attribute a low priority to improving the competence of local government and utility staff on legal mechanisms and urban-management tools for the peri-urban sector.

Incidence of Capacity Building in association with other subjects (*)

Capacity Building & Cost Recovery	91	59.8%
Capacity Building & Citizens' Participation	88	57.8%
Capacity Building & Appropriate Technologies	76	50.0%
Capacity Building & Legal Status	39	25.6%
Incidence in total number of studies	152	100.0%

(*) These are the first four key elements of the Strategy Outline, i.e. those specifically related to the urban poor and to peri-urban settlements.

5.6. To get a better idea of the context and conceptual background for capacity building interventions, the strategic approaches of the various actors involved in the WSS sector should be examined. As was mentioned earlier, capacity building also means enhancing the capacity of these actors to undertake meaningful initiatives, and improving their mutual relations. The approaches in question, illustrated below, can be deduced from the varying degrees of interest in the key elements of the *WC/U Strategy Outline*.

- National governments seem to concentrate mainly on citizens' participation and cost recovery, and do not consider the legal status of informal settlements to be as important.

- Local governments, on the other hand, give priority to legal status, followed by citizens' participation. They seem much less interested in the appropriate technologies issue and in cost recovery.

- External support agencies seem at the moment to focus on two themes, i.e., citizens' participation and cost recovery. They pay little attention to the legal status of peri-urban settlements, and, although they do not view it as an absolute priority, considerable attention to the theme of appropriate technologies.

- Utilities seem mainly concerned with pursuing policies for cost recovery and implementing appropriate technologies. They seem on the contrary much less inclined to pursue objectives regarding the legal status of informal settlements and, even less, citizens' participation.

- Finally, the groups of active citizenry are mainly concerned with participation, accompanied by a certain interest in cost recovery and/or appropriate technologies, but deal less often with the theme of the legal status of informal settlements.

5.7. In addition to differences in strategic approaches, there are also conflicts among the five above categories of actors. The following are explicitly reported in the studies:

- conflicts between local and national governments;
- conflicts between external support agencies and national governments;
- conflicts between citizens and local governments;
- conflicts between citizens and external support agencies;
- conflicts between local governments and WSS utilities.

There is, on the other hand, no explicit reference to conflicts between national governments and local communities.

Resources and Constraints

5.8. The studies examined often mention negative aspects of the institutional arrangements and functioning of national and local governments, external support agencies and WSS utilities. At times, however, they also mention options or resources to facilitate capacity building, singled out on the basis of the available experience regarding the WSS sector and local government.

CONSTRAINTS AND CHALLENGES

- *lack of coordination between local and national governments in WSS service management*
- *poor or non-existent flow of information and know-how among the various actors involved*
- *muddled organization of local governments*
- *limited career opportunities for civil servants and utility staff, who are therefore seldom motivated*
- *lack of training opportunities for utility personnel and civil servants*
- *corruption and dishonesty of some public officials*
- *inadequate control and monitoring of WSS services*
- *an exclusively technical approach to WSS service management*
- *inadequate remuneration of utility personnel and civil servants*
- *insufficient autonomy of utilities*
- *operation of utilities under monopoly conditions*
- *over-ambitious goals of development projects promoted by external support agencies with respect to local capacities*
- *poor or non-existent coordination among external support agencies*
- *shortage of managers and staff specifically trained in urban development in external support agencies*
- *adherence to rigid programming and spending criteria on the part of external support agencies, with consequent difficulties for the capacity building components of projects*

BOX 1 - SUCCESS-STORIES

In several studies on successful projects, special emphasis is placed on capacity building.

An interesting example is the decentralization process of the Sri Lanka Water Supply and Drainage Board (W38), which was accomplished through the creation of five regional support centres. The programme included a follow-up consisting in day- or week-long training courses and the organization of study tours in other countries (Singapore, Malaysia and Brazil) to analyze other water supply management schemes.

Another interesting case is the "Programa Techo y Trabajo", implemented in Honduras (W225), which has explicitly included among its objectives - in addition to the extension of WSS service coverage - the strengthening of local government institutions through technical assistance and training initiatives.

This is also the case of all WSS projects which include actions aimed at strengthening the population's self-help capabilities or establishing specific organizations (for example, "users' committees") for the management of the finished works. Among these projects, the "Courtyard Rehabilitation Programme" of Katmandu (W29), the "Cuaves" project of Villa el Salvador (Peru)(W131D) and the sanitation programme at Maina (Kenya) (W237C) deserve mention.

OPTIONS AND RESOURCES

establishment of national associations of municipalities and WSS utilities ☐

collaboration and coordination among the various external support agencies, national and local governments and utilities ☐

international networks for the exchange of information and know-how ☐

involvement of the private sector in WSS services ☐

autonomy of utilities in setting tariffs, salary scales and career structures ☐

training opportunities for management, administrative and technical staff at all levels ☐

consolidation of the organizational culture and improvement of the working environment in WSS-utilities ☐

managers who are held in great esteem by the staff ☐

motivational factors and career opportunities in utility companies ☐

constant monitoring of WSS service performance and quality, by adopting, among other measures, a suitable set of indicators; the same applies to the performance of utility companies ☐

a flexible organization of the work in utilities, responsive to user and market needs ☐

5.9. A further, important option that is not mentioned in the studies examined is the re-training of available utility or public sector personnel and professionals (e.g., public health inspectors) that are not yet - but could be - involved in community liaison for WSS service management and maintenance (cf., among others, Cairncross, 1992).

As is evident from the list of constraints and resources that has emerged from the studies, there often are differing assessments and representations of the same phenomenon, which in some cases is seen as a constraint and in others as a resource or option. In this connection, the constraints and resources for capacity building mentioned in the studies can be referred to the three subjects indicated earlier (see # 5.3): urban governance and public policies on peri-urban settlements; management of WSS utilities; and the action of external support agencies.

a) Urban governance and public policies on peri-urban settlements

A first set of constraints consists in the inadequacy of urban housing and land use policies in the face of growing demand in developing countries (W110). According to a study (C188A) by UNCHS (Habitat), the lack of effective policies on urban housing and land use causes a wide array of problems, such as the rise in land prices, the proliferation and extension of suburban areas, higher transportation

costs and increased automobile traffic. The study also maintains that governments base their figures on the housing shortage on middle-class values and that little account is taken of the actual needs of poorer segments of the population. The absence of a national policy on housing problems can also be due (as is the case in India) to scant public sector capacity to attract and retain a sufficient number of qualified urban development professionals (W257).

In general, the lack of adequate national policies for the urban sector is one of the constraints cited, even though there are differences in emphasis on this score: some complain of the lack of specific policies for the WSS sector (W218, W49, W110), while others lament the excessive fragmentation of existing policies (W2). In one study, the lack of a State housing policy is singled out as the main constraint on slum upgrading projects in India (W20). Other studies, on the contrary, retain that the strengthening of local institutions is more important than a national policy (W170) and extol the positive aspects of administrative decentralization and, more generally, of the autonomy of cities (W120).

Conflicts or absence of coordination among the various levels of urban government are among the constraints most frequently mentioned in the studies examined. An OECD assessment of problems in rapidly growing cities (W170) singles out, among the four main constraints, the lack of coordination among the various local government bodies. A note presented by USAID at the DAC/OECD November 1992 Meeting on Aid for Urban Development (W126) argues that the financial resources allocated to cities are inefficiently managed because there is often a costly system of decentralized offices of central government ministries operating in parallel with local governments.

The limited flow of information among the various actors operating in the urban WSS sector is mentioned by several authors as an obstacle to intervention capacity. A study on Mexico (C191P), for example, laments the lack of information exchange among the various bodies dealing with urban development; the complaint is echoed in a document analyzing policies for Indian peri-urban settlements (W20). Among the initiatives which have helped remedy this lack of communication in some countries, are national water utility associations (W10), useful for coordinating actions, exchanging information and experiences and creating common data banks, and associations of municipalities (W170), which have been effective in cutting down cumbersome and often useless administrative controls, setting long-term goals for ministerial action and amending inadequate regulations for the allocation of State subsidies.

A significant impediment for good governance at the urban level is the poor planning capacity of local authorities (W152). One study (C253) maintains that the main problems reported in the implementation of urban projects have been: failure to execute projects as planned; long delays between design and execution; little attention paid to defining instruments to be used to mobilize technical, economic and financial resources. One study prepared for the USAID-WASH programme (W17) also points out that peri-urban sector planning is difficult for several reasons: the residents are poor, have no security of land tenure, and slum areas are normally all but inaccessible.

Another key constraint on the planning of WSS projects is the shortage of tools for collecting and managing information on peri-urban settlements. The above-mentioned USAID-WASH study (W17) argues that the lack of cadastral data and statistics on informal settlements in developing countries makes it impossible, when planning a project, to know beforehand the number of dwellings lacking services. The World Bank concurs, in two documents (W251), by stressing the fact that information on such important aspects as water demand and consumption, users' effective willingness to pay and the location of existing water mains are not accessible to policy makers.

Another constraint, associated to the ones listed above, is the lack of a clear definition of administrative boundaries in urban areas, as already pointed out in other WG/U Working Documents. A USAID-WASH comparative study on the health effects of WSS systems (W69) maintains that the lack of a precise definition of the notions of urban area, peri-urban area, small city and rural village causes problems for settlement upgrading programmes.

The poor motivation of local administrators is also mentioned as a constraint on good urban governance. The limited possibilities which local governments offer for those aspiring to a political career, for example, are mentioned in a DAC-OECD document (W152).

Some of the greatest difficulties cited in the studies examined were registered when the resistance of officials to innovations was added to the excessive bureaucratization of local government. The slowness and complexity of procedures for implementing shelter improvements create many difficulties in themselves, as pointed out in an OECD document (W153). The situation may be made even worse by the opposition of public officials, who are sometimes skeptical and suspicious of new programmes and loath to deal with peri-urban settlements (C196). A study on Ecuador (W88A2), for example, points out

that one of the constraints to water service extension is the reluctance of public officials to visit peri-urban areas.

Finally, a structural factor should be kept in mind: demographic pressure in urban areas of developing countries is often referred to as a constraint on the implementation of effective urban upgrading policies, since it renders the situation in target settlements fluid and unstable (W53).

b) The management of WSS utilities

A serious constraint for the management of WSS utilities is sometimes referred to with expressions such as "a narrow technical vision" or "an exclusive use of engineering skills". A study on relations between users and utilities in Venezuela (W262), for example, criticizes the exclusively technical approach employed with regard to WSS systems. Another study, on WSS services in Argentina (W57), maintains that the engineering vision, which focuses on the implementation of infrastructure without considering marginal costs, is an obstacle to the development of services.

According to some studies (e.g., W57), the fact that many utilities operate under monopoly conditions and are almost completely dependent on government financing is an important obstacle to service improvement, since market forces never come into play (W104). Another drawback mentioned is the utilities' lack of autonomy in setting tariffs and staff salary levels, which are normally regulated by the government (W104). This is a thorny problem, since the possibility of offering competitive salaries is obviously indispensable for attracting and retaining qualified personnel (W25).

Another element which, according to the studies analyzed, does not encourage - to say the least - the proper functioning of utilities is the lack of motivation of personnel, due mainly to low salaries and limited training and career opportunities. One study (W104) points out that, within WSS public utilities, important staff positions are assigned on the basis of political affiliation rather than merit. According to another study, job security, promotions based exclusively on length of service, the lack of recognition for work well done and the lack of sanctions for poor work help to demotivate the staff (W104). The lack of incentives, along with severe limitations on salary levels often imposed by the economic situation as a whole, means that it is very hard to retain qualified personnel in WSS services (W25). Moreover, in some cases the management has to deal with widespread dishonesty and corruption among personnel, who seek personal rent from service delivery, taking undue advantage of their position of close contact with the public (W8).

However, there are also positive experiences in WSS utilities management. A study on some companies in the WSS sector (W251) argues that the successful ones are those which have their own organizational culture and in which the managers are held in great esteem by the rest of the staff. A controversial point concerns management training: in some cases, such as that of a Brazilian water utility company, in-house training programmes seem to have been the key factor for success; in other situations, instead, personal qualities of staff and the capacity to learn on the job seem to have been more important (W251).

One of the ways in which various countries are attempting to remedy the above-mentioned deficiencies is the privatization of utilities or, alternatively, the involvement of the private sector in some aspects of WSS service management.

In many studies, the latter solution is seen as a major option (W70, W130), and successful experiences are not lacking. For example, the water board in Santiago, Chile (EMOS) has involved private companies in metering, billing and maintenance of

BOX 2 - LESSONS LEARNED

The studies examined report recurrent problems regarding various aspects of capacity building. Here are some examples.

One problem involves coordination among the various levels of municipal government. A study in Nuevo Horizonte (Bolivia) (W88C2), for example, reports that the various State bodies carried out isolated, contradictory and uncoordinated actions, even going so far as to construct a second water main alongside a serviceable, but inactive, one. Another typical problem concerns the difficulty in defining the administrative boundaries of urban areas. In Mbakombako (Zaire) (W298L), the delay in the implementation of a WSS project was due to the fact that the target settlement grew so rapidly that it could be classified, from an administrative standpoint, as neither a village nor a city in its own right. A study on India (W267) found, as already mentioned elsewhere, that many slums are outside the administrative boundaries of the municipalities, which therefore lack a mandate, and an interest, in tackling their problems.

the network, with excellent results (W290). With regard to full privatization, however, a more critical view prevails. One study (W229G) maintains that privatization of WSS services may be effective, but only provided the following actions are accomplished:

- restructuring the utility and putting its finances in order before the sale;
- setting up a good institutional marketing strategy in order to attract investors;
- performing maintenance on the plant as needed before the sale;
- instituting a specific government body to regulate the operation of the privatized companies;
- prevention of undue rises in service prices once the utility is privatized;
- preventing shares from being concentrated in a few holders' hands.

Other studies stress the weak points of privatization. The most frequent criticism is that privatization improves services for the better off, but not for the poor (e.g., W153). In addition, some claim that privatization of services does not automatically ensure lower costs (W287).

Finally, the use of external consultants for operational support is suggested as a successful option for WSS authorities (W229C). However, critical assessments are not lacking on this score either. In fact, according to some, over-reliance on outside contractors and consultants in developing countries would constitute an obstacle to capacity building (W37).

c) The action of external support agencies

Some constraints to capacity building mentioned in the studies are due to the action of external support agencies (ESAs). These can sometimes help to increase local capacity by acting as facilitators among the various institutions involved in programmes (W218) or, on the other hand, they can inhibit or hinder the development of such capacity (W37). Moreover, many point out that ESAs themselves need organizational and institutional improvement (W112).

At times, the effectiveness of ESA programmes is limited by the over-ambitious goals set by international organizations with respect to local capacities. When institutional counterparts in host countries are too weak, ESAs tend to end up replacing them, with dire consequences for the sustainability of programmes after the withdrawal of aid (W37).

Other impediments to capacity building are the conflicts that sometimes arise between ESA staff and the local population on the objectives of projects (W86).

In this regard, some studies mention, among the constraints, the scarce consideration on the part of ESAs to the time frames required for implementing certain projects. Furthermore, they stress the ESAs' inadequate consideration of the start-up and maintenance phases of infrastructural projects (C196, W303).

Another constraint pointed out in the studies, albeit not very frequently, is divergence of opinion within the international development aid community. In the final report of the WSSEC Oslo Global Forum (W218), reference is made to cases of conflicts among donor countries, at times even set off *ad hoc* by the governments of host countries. The role of NGOs is another controversial subject, since they are often portrayed as lacking the necessary technical and administrative competence to carry out WSS projects.

Moreover, there are some difficulties inside development agencies themselves that prevent them from offering support commensurate with their investment capacity. In this regard, the shortage of managers and professional staff with a specific competence in urban development is observed in the studies (W112).

Another impediment mentioned in the studies is the lack of operational coordination and information flow among different agencies. In particular, many authors highlight the insufficient circulation of already available knowledge on the lessons learned from urban sector projects. The DAC/OECD notes that donor countries should step up information exchange, besides continuing to take part in periodic meetings devoted to urban development (W112). In other studies, the usefulness of international networks for information and know-how exchange is pointed out (W166).

Recommendations

a) Basis for action

5.10. Institutional reform and capacity building should aim first of all at making sector institutions work, by enhancing their financial and administrative efficiency. Beyond improving the capacity of utility companies to discharge their traditional duties, however, the challenge of developing new capacities for the provision of services under the specific conditions of peri-urban areas must be faced.

5.11. Policy frameworks should be developed at the national level to address the roles, responsibilities and support needs of sector institutions in the delivery and management of water supply and sanitation services in peri-urban areas. In this context, it is necessary not only to enable the optimum operation of the agents related to service provision, but also to actively favour the establishment of partnerships among them.

⁂

b) Guidelines for immediate action

5.12. Programmes aimed at the development of human resources should first of all aim at enabling utilities and sector institutions to attract and retain sufficient numbers of suitably qualified personnel, but also to deal effectively with peri-urban service provision. Such programmes should include:
- the adoption of competitive, market-based salary levels and benefits;
- the establishment of adequate career structures, incentives and evaluation mechanisms;
- the provision of training opportunities linked to career progression;
- the retraining of available staff in customer relations and community development and liaison activities;
- the retraining of WSS personnel to improve their capabilities in dealing with the non-technical aspects of the delivery and management of services in peri-urban areas;
- placing special emphasis on enhancing capabilities related to sanitation and sewerage development.

5.13. The involvement of the private sector should be encouraged by national governments and actively sought by utilities, which should explore possibilities in creating new roles for private companies in the provision of WSS services.

5.14. ESAs and national sector agencies should actively encourage the establishment of interinstitutional and interdisciplinary working groups with spending and decision-making powers, as an innovative institutional arrangement to coordinate and promote the upgrading of peri-urban areas and their integration into the city. In large cities or metropolitan areas, several such units could be created on a decentralized basis.

5.15. ESAs and national sector agencies should actively encourage WSS utilities and NGOs to jointly develop mechanisms for NGOs to act as intermediaries or surrogate service providers to peri-urban communities when legal, administrative or other constraints prevent direct service provision by WSS utilities.

5.16. Local governments and WSS utilities, with the help of NGOs and citizens' groups, should jointly assess the existing roles, responsibilities and capabilities of the agents dealing with peri-urban WSS services in their locality, in order to define possible institutional reforms.

⁂

c) Further recommendations

International level

5.17. ESAs should work together to devise new collaborative mechanisms for coordinating their urban programmes.

5.18. ESAs should enhance their own capacity by:

a) increasing the number of managers and professional staff with specific competence in urban development;

b) establishing coordination mechanisms between their units responsible for environmental infrastructure, housing, urban development, social and community affairs, and financial markets development;

c) active participation in existing networks related to WSS and urban development, as a means to improve coordination among multilateral and bilateral ESAs.

5.19. ESAs should support training initiatives for utility managers, local administrators, ESA staff, NGO staff and grassroots leaders on socio-economic, managerial, and legal matters related to service provision in peri-urban communities.

National level

5.20. WSS authorities should be assisted in organizing national associations to promote their interests, in the context of WSS sector reform.

5.21. WSS professionals should be assisted in organizing national associations to increase expertise and improve performance standards for WSS practioners through exchange of information and professional training.

5.22. National governments should establish and enforce service and financial performance standards for WSS authorities.

5.23. National governments should grant the maximum autonomy to WSS authorities in managing service delivery and financing, including tariff setting and enforcement. The transition to full autonomy should be aided and guided through the provision of support mechanisms.

5.24. Grassroots organizations should be assited in the creation of coordination, research, training and service networks at the national level.

Local level

5.25. Municipal governments should be assisted in the creation of associations or consortia of municipalities to exchange experiences and provide training related to the development of peri-urban settlements.

5.26. ESAs should support the provision of technical assistance to local governments on tools for urban planning and management, WSS service installation, and utility management.

5.27. The following four steps procedure should be adopted by ESAs for institutional reform initiatives:

a) promoting research to identify vital elements for institutional reforms;

b) promoting the comparative analysis of institutional reform processes, with particular reference to peri-urban areas, and information exchange among practitioners;

c) coordinating relevant actions at country level among multi- and bi-lateral donors, in consultation with the relevant levels of government;

d) ensuring follow-through and completion of the institutional reform process.

5.28. National governments should adopt new regulatory tools for harmonization of the existing rules and regulations on housing and WSS at the national level.

5.29. International organizations and countries belonging to economic organizations (OPEC, OECD, etc.) should intensify and harmonize their urban programmes.

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Chapter 6
Water Resources Conservation and Management

Chapter 6 highlights some of the key concepts arising from the international debate on water resources conservation and management, which have been analyzed and endorsed by the Working Group.

The Theme

6.1. In most cities, the water sector performs badly both in terms of economic efficiency and environmental sustainability, at a high cost to society. The poor naturally bear the brunt of such a cost, represented by ill health, low quality of life, and productivity losses. The affordability and financial viability of improving service coverage in the peri-urban sector depend to a large extent on the existence of city-wide water resources policies aimed at conservation of the resource and enhancement of the sector's revenue base.

A broad consensus has been reached on the principle that water is an economic, as well as social, good, and should be managed as such. Several practical applications, leading to performance improvements, could arise from the adoption of such a principle by WSS authorities:

- control of physical losses and improvement of measuring and charging mechanisms to reduce unaccounted-for water;
- the use of economic and regulatory incentives to enhance water conservation and re-use;
- more efficient allocation of water among competing uses;
- the establishment of an equitable, city-wide cost recovery framework;
- better management of water demand.

Better overall water resources management should increase the availability of water for domestic purposes within existing systems, while keeping the cost of new supplies within acceptable bounds, and at the same time enhancing the investment capabilities of water supply and sanitation authorities.

Recommendations

6.2. The theme of water resources conservation and management has been the object of keen attention in many recent international consultations (e.g. ICWE (Dublin), UNCED (Rio)). Important new developments are under way in the fields of applied research and policy analysis with regard to issues like solid waste management and water resources pollution, hazardous wastes, and water requirements & waste generation by small-scale and cottage industries. In this context, WG/U has discussed and endorsed some of the key concepts arising from the international debate on the subject, which are given below.

a) Basis for action

6.3. Local governments, in partnership with other agents, should be encouraged in the development of an integrated approach to the delivery and management of environmental infrastructure - water supply, sanitation, solid waste disposal and drainage. In this perspective, the extension of sanitation coverage to peri-urban areas should be seen also as a means to enhance water resource protection.

6.4. The conservation and sustainable use of water resources require the development and implementation of a comprehensive framework of economic and regulatory instruments and incentives, as well as concurrent public information activities and the enhancement of monitoring and surveillance capabilities.

b) Guidelines for immediate action

6.5. Governments, with the help of ESAs, should explore practical ways in which to apply economic and regulatory incentives and instruments (e.g. the "polluter pays principle") to protect water resources; in this context, monitoring and surveillance should be enhanced and sistematically undertaken, in order to help prevent water pollution and to improve water management.

In particular, water authorities should control industrial effluent discharges and toxic waste disposal sites, paying particular attention to aquifer protection.

6.6. WSS utilities should enhance water conservation through the control of physical water losses, including leakage detection programmes, and the improvement of measuring and charging mechanisms to reduce unaccounted-for water.

6.7. The fact that the extension of sanitation services to peri-urban areas has among its positive effects the protection of water resources should be an added incentive for WSS utilities to explore ways to stimulate demand for sanitation and extend coverage, with the participation of the users in peri-urban areas.

6.8. Governments should adopt economic and regulatory incentives to enhance water conservation and urban wastewater reuse, as ways of easing water shortage problems, and to facilitate collection and treatment of wastewater.

c) Further recommendations

6.9. Governments should establish an institutional and legislative framework to integrate water resources planning and land-use management at ecosystem level (catchment basins, etc.) including both ground and surface water bodies.

6.10 Utilities should explore non-conventional ways to access additional water resources, such as rainwater harvesting at the household and settlement levels.

6.11. National governments should be aided to establish and enforce water and effluent standards, particularly for industrial effluents within urban areas, based upon a realistic appraisal of health risks, environmental impacts and development objectives.

6.12 ESAs and governments should promote coordination between water supply and Primary Health Care (PHC) strategies. The Primary Environmental Care (PEC) strategic approach should be adopted in water and sanitation projects, in order to concur to the protection of surface and ground waters.

Chapter 7
Matters Requiring Further Research and Empirical Testing

The Working Group on Urbanization has singled out a number of matters that need further investigation through research, collection and exchange of documentation, and empirical testing. These issues, that are listed in this Chapter, could be addressed in any future activities of the Working Group which may be approved at the Rabat Meeting.

The Theme

7.1. The research carried out by the Working Group on Urbanization has identified important gaps in knowledge and information exchange, that constitute serious constraints to sustainable service extension in peri-urban areas. Such *knowledge gaps* are related to both the Working Group' s key areas of concern:

- gaining a better understanding of the peri-urban sector and its mechanisms;
- enabling water utilities to recover capital and operating costs and thus gain access to capital markets to finance service extension.

7.2. There is an acute need for ESAs, governments and NGOs to gather and circulate information on experiences of participation of organized citizens' groups in the planning, implementation, management and maintenance of WSS services in peri-urban settlements. It should be pointed out that there is considerable documentation available on current experiences in Latin American countries, which should be made more widely available, while there still exists a knowledge gap to be filled on Asian and African countries.

7.3. Research on socio-cultural dynamics in peri-urban settlements, including gender issues, should be encouraged at all levels, in order to improve knowledge on target communities and to highlight factors within them which could turn out to be constraints or resources for project implementation.

7.4. Such research seems particularly important, since a number of recurrent stereotypes on peri-urban communities hinder action to improve their lot. For instance, the notion according to which high population density is sinonymous with violence and unsanitary conditions, or the assumption that women can better participate in WSS-related projects because they have more free time, whereas in fact they often have two or three times the work load of men.

7.5. The acquisition of knowledge on socio-cultural dynamics in peri-urban settlements would contribute to a more realistic view and thus to better project formulation. It would also help to identify forms of users' involvement in implementation and maintenance of services in peri-urban areas (leakage detection, infrastructure maintenance, use of locally trained labour to install services, etc.).

7.6. ESAs could make a key contribution towards an applied research effort specifically geared to the water and sanitation needs of peri-urban areas. In particular, there is a need for applied research aimed at the development of guidelines for application by WSS authorities in the areas of private sector participation, capital investment, organizational development, and training, with a specific focus on the peri-urban sector.

7.7. Information exchange should take place among ESAs, WSS authorities and national and local governments on the involvement of the private sector in WSS service provision, including privatization experiences (through meetings, publications, etc.). Another important area is the adaptation of available computer information systems for WSS monitoring (e.g. WASAMS) to the urban context and especially to the peri-urban sector, adding special indicators, and devising ways to strengthen data collection systems.

7.8 In this context, expansion of available data banks and creation of international and regional networks would improve the dissemination of research results and know-how on peri-urban WSS services.

Recommendations

7.9. The Working Group on Urbanization, in addition to the recommendations given in Chapters 1 through 6 of this Report, has drawn up a list of the matters that require further investigation through research, collection and exchange of documentation, and empirical testing. Such matters could be addressed in the future activities of WC / U, whatever form they take after the Rabat WSSCC Meeting.

More in general, ESAs, national and local governments and sector agencies, utilities and NGOs should be encouraged to design and implement applied research and dissemination programmes in relation to the following:

7.10. Intermediate legal options for security of tenure in informal settlements.

7.11. Simplified institutional arrangements and bureaucratic procedures for cadastral registration and settlement regularization.

7.12. Rationalization of bureaucratic spheres of competence and procedures to grant legal title to tenure (or similar).

7.13. Policies and mechanisms to provide services to vulnerable groups (e.g. renters), and protect their interests when undertaking legal recognition and settlement upgrading, without blocking these processes.

7.14. Policy and legal instruments to enable service provision to settlements that, even though they fall outside the territorial jurisdiction of local authorities, are part of their urban structure.

7.15. Effective ways of sharing responsibility for projects (financial resources, labour, management, etc.) and for the operation and maintenance of finished works, between implementing agencies, WSS utilities and local communities (1).

7.16. Feasibility of implementation and functionality of existing tariff systems in relation to the goal of full cost recovery.

7.17. Comparative advantages of available mechanisms for equitable cost recovery (cross subsidies, single tariff with direct subsidies to poorest groups, and so on).

7.18. Practical mechanisms and institutional arrangements for breaking down large loans from financing organizations into the small loans required by participatory approaches in peri-urban settlements.

7.19. The application of economic penalties and incentives, such as those based on the *polluter pays* principle, to environmental conservation and sustainable utilization of water resources.

7.20. Requirements and constraints to private sector involvement (e.g. guarantees offered by local and national governments; low revenues of WSS services; cost recovery frameworks; clear and stable rules; etc.) and effectiveness of the various degrees of private sector involvement, including full privatization, in extending and improving services for the poor.

7.21. It would seem particularly useful to draw a comparison between the experience in citizens' participation in the management and maintenance of urban infrastructure gained in industrialized countries (e.g. the Finnish water cooperatives) and in developing countries.

7.22. Technical solutions for adapting WSS systems to the shelter and infrastructure conditions of the peri-urban sector.

7.23. Standards for affordable incremental WSS service extension, to encourage the efforts of local governments and WSS authorities.

7.24. The potential pollution of shallow ground waters underlying urban areas from sanitary installations such as pit latrines.

7.25. Patterns and requirements of household activities - food preparation, laundry, personal hygiene, cleaning the house - in relation to water use, so that women's needs can be taken into consideration when formulating projects.

7.26 Guidelines for the practical application of participatory principles.

Notes

(1) The desirable scope and levels of community participation vary according to the socio-cultural context.

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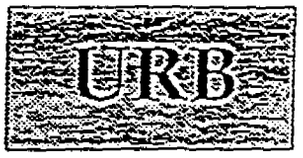
Annexes



Annex 1
The WG/U from Oslo to Rabat

1. WG/U is one of the seven Working Groups, launched by the WSSCC at the Oslo Meeting (September 1991), that will be presenting their Reports to the Rabat WSSCC Meeting (September 1993).

2. WG/U has been coordinated by the Directorate General for Development Cooperation of the Ministry of Foreign Affairs of Italy (MAE/DGCS).

3. CERFE, *Centro di Ricerca e Documentazione Febbraio '74*, a Rome research institution, was appointed to perform the functions of scientific and operational Secretariat to the Working Group.

4. The main phases of the activity of WG/U were the following:

* discussions at the Oslo meeting (September 1991);
* preliminary contacts with the membership (4th quarter 1991);
* drafting of the Terms of Reference (1st quarter 1992);
* incorporation of members' comments into the Terms of Reference (2nd quarter 1992);
* submission of inputs by WG/U members (March-December 1992);
* 1st version of the Strategy Outline (August 1992);
* WG Coordinators' meeting in The Hague (September 1992);
* 2nd version of the Strategy Outline (October 1992);
* Geneva Core Group Meeting (November 1992);
* 3rd version of the Strategy Outline (December 1992);
* filing and systematic analysis of the documentation sent by members (December 1992 and 1st quarter 1993);
* drafting of the Research Report and of the Working Documents for Siena (1st quarter 1993);
* Siena Meeting (April 1993);
* Executive Summary of the WG/U Report (June 1993);
* Seminars in Bologna and Rome for the dissemination in Italy of the Working Group' s findings (2 and 12 July 1993);
* WG/U Report (July 1993);
* presentation of conclusions to the Rabat meeting (September 1993).

5. Apart from the above-mentioned documentation, the WG/U Coordination and Secretariat have produced several background papers, a Geneva Core Group Meeting Report, and a Research Report.

6. Another product of WG/U is the *Data Base* obtained through the filing into a Macintosh computer of the information contained in the inputs submitted by members. The filing work was based not only on formal criteria but also on the informatization of the findings of the analysis of each of the 400 studies consulted.

7. Many developing countries - including Bangladesh, Benin, Brazil, Chile, Colombia,Ecuador, Fiji, India, Indonesia, Jordan, Mexico, Nigeria, Peru, Senegal - and major ESAs - including the African, Asian and Interamerican Development Banks, Caisse Française de Développement, Canadian CIDA, German GTZ, British ODA, UNICEF, UNCHS (Habitat),USAID (and the WASH Project),WHO, The World Bank - and research institutions - including IRC (Netherlands), IRCWD (Switzerland), ISF (Norway), Tampere University (Finland) - have taken part in the Working Group.

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Annex 4
Siena Meeting
Excerpts from the Working Documents

The recommendations given in Chapters 1 through 7 of this report are the results of the deliberations of the Siena Meeting (25-28 April 1993). In Siena, Working Group members analyzed the formulations, contained in this Annex, that had been prepared by the Coordinator and Secretariat on the basis of the systematic analysis of the documentation present in the WG/U Data Base. References and boxes mentioned in the text of this Annex can be found in the corresponding Chapters of the WG/U Main Report.

1. Security of Tenure and Other Legal Issues

Matters of Debate

1.1. Analysis of the case studies reveals the following open questions concerning legal status in the peri-urban sector:

* *the relevance of legal title to tenure (or similar) for WSS service extension;*

* *bureaucratic or administrative spheres of competence to grant legal title to tenure (or similar);*

* *the cost and usefulness of collecting urban development information, aimed at eventually establishing land-use regulations and cadastral registers, before providing WSS services;*

* *the feasibility of instituting legal recognition procedures for informal settlements at the local level without reforming or amending existing national legislation;*

* *how to ensure security of tenure without incurring in costly and lengthy bureaucratic procedures for obtaining building rights and legal title to property;*

* *how to achieve collaboration and regular information exchange between municipalities, WSS authorities, and land property registries;*

* *how to protect vulnerable groups (e.g. renters) when undertaking legal recognition, without blocking the process.*

Ideas and Suggestions

1.2. The case studies analyzed suggest some ideas that should be looked at more closely in the future.

- Simplified approaches, with the use of computer technology, to survey peri-urban settlements. A first important aspect is to determine what regulatory and urban management tools can and should be applied to peri-urban areas. While regulatory tools such as master plans and detailed plans, at least in the early stages, do not seem indispensable for providing sustainable WSS services, it is necessary for incremental upgrading of informal settlements to have a cadastral data base and a description of the geo-morphological characteristics of settlements and of the suitability of sites for building.

The essential steps would thus seem to be four: description of the status quo of the area involved; evaluation of the situation (definition of areas at risk and areas destined for public use); participatory planning and design of the upgrading intervention; and cadastral registration (that is, the procedure through which the territory is divided into well-defined parcels corresponding to a number which distinguishes each parcel from the surrounding physical and urban environment; this number also identifies a legally defined, or, in our case, an eventually to be defined, property).

In the event a decision is taken to provide a given settlement with WSS services, the data base relative to the four above steps could be the result of the expansion of the traditional survey carried out by the technicians of municipal governments or water boards when establishing the layout of water and sewer mains.

It should be pointed out that all four of the aforesaid operations can be simplified by the use of computer applications available today (cf. box 3), at a reduced cost and within a reasonable time frame.

Moreover, the description of a settlement should be recognized as a pre-requisite for the definition of three very important spatial categories within it: stable parts that cannot be removed or changed (e.g. a paved road or existing sewer main or open drain); parts that should eventually be removed (because of a recognized risk - e.g. of disastrous flooding or landslides - or because of an urban development imperative such as the opening of a major thoroughfare); and modifiable parts that may stay where they are but will be probably modified during the upgrading process.

- Flexible institutional arrangements for collecting legal, cadastral and urban planning information. One suggestion for going about the regularization of informal settlements is to create special interdisciplinary and preferably inter-institutional bodies or units composed of surveyors, urban planners, infrastructure experts, public works experts, lawyers, economists, sociologists, social workers and citizens' representatives, charged with defining and updating the necessary cadastral, legal and design information on target settlements.

Such flexible "upgrading units" would have the advantage of concentrating collective skills and knowledge (geo-morphologic, socio-economic, engineering, etc.) on matters relevant to urban development into a single structure, to overcome the obstacles arising from the lack of reliable and up-to-date information. Moreover, such bodies could coordinate, in a sort of "permanent committee on services", all existing sectoral spheres of competence, in a manner responsive to effective demand. At the urban level these bodies could also promote a permanent dialogue among the various institutions that manage cadastral information (municipal authorities, land property registries, WSS boards, other utilities - e.g., electricity and gas companies, etc.) with an eye towards creating "interactive cadastres", or, at any rate, cadastres organized along similar lines, to promote information exchange.

- Simplification of bureaucratic procedures for regularization of tenure. Another suggestion worthy of more thorough study is the simplification of the bureaucratic procedures necessary to obtain title to property. To this end, the creation of a single "authority" or "office" competent to issue permits and property titles, to keep cadastral and title registers, and to exert control over land use in specific settlements, could help to overcome the problem of lengthy legal recognition procedures described in #1.10(a).

- Regulations, procedures and incentives for legal recognition. A broader issue concerns regulations and procedures that can make legal recognition of peri-urban settlements easier. Various levels of the legal system can be involved in this (the Constitution, government regulations, civil law, etc.). For example, measures such as the following could be considered:

- introduction into the constitutional framework of legislation recognizing the social function of property, and separating the right to build from the right of ownership;

- immediate recognition of tenure, notwithstanding the laws in force, for those who can demonstrate that they possess a valid claim to it (e.g. payment of taxes, presence in a previous census, a contract, etc.);

- tax incentives for those investing in home improvements and those who contribute to the maintenance of services;

- adoption of administrative procedures to speed up legal recognition, such as "silent assent" (a default decision following lapse of the notice period) and "prescription" (expropriation of land which has not been used for a certain number of years).

- Political considerations. With regard to policies aimed at providing services to peri-urban settlements, it should be stressed again that mutual recognition between municipal authorities and peri-urban settlement communities is a crucial step towards bringing about the necessary changes at the legal and administrative level. It should be stressed that unfortunately, in many cases, this is far from being the case today, mutual hostility and mistrust still prevailing. Action is therefore required, at the political advocacy level, in order to achieve progress in the legal status issue.

2. Peoples' Participation

Matters of Debate

2.1. There are a number of questions concerning citizens' participation about which the authors are not always in agreement. Some of these questions are:

- *whether, and on which occasions, the cost and complexity of citizens' participation exceed the benefits produced;*
- *whether and how participation should be accompanied by the institution of citizens' organizations, guided to a certain extent "top-down" by implementing agencies;*
- *whether, and on which occasions, existing local groups should be relied on, or specific new groups created;*
- *what role should be played by existing grassroots organizations (NGOs, committees, associations, volunteer groups, etc.);*
- *which stages (choice of alternatives, planning, implementation, management, maintenance, monitoring, evaluation) profit most from citizens' participation;*
- *what is the most effective way of sharing responsibility for projects (financial resources, labour, management, etc.) between implementing agencies and local communities;*

* *whether there is an unsurmountable difference between the time frames of traditional development projects and those undertaken with citizens' participation;*

* *what are the most effective institutional arrangements for achieving effective citizens' participation.*

Ideas and Suggestions

2.13. The studies examined offer ideas and suggestions about promoting citizens' participation in peri-urban WSS services that seem worthy of further study.

- More information on the forms of citizens' involvement in the provision of WSS services. There is an acute need to gather and circulate information on the experience of participation by organized citizens' groups for the planning, implementation, management and maintenance of WSS services in peri-urban settlements. It should be pointed out that there is considerable documentation available on current experiences in Latin American countries (W8S, C1SS, W120, W27, W26, W12, W93, W62), while there seems to be insufficient data on Asian and African countries. Furthermore, it would seem particularly useful to draw a comparison between the experience in citizens' participation in the management and maintenance of urban infrastructure gained in industrialized countries and in developing countries.

- Human Resources Map. Another proposal to be taken into account, overcoming ideological or generic notions regarding "beneficiary" populations, is the identification of individuals or groups whose opinions do carry weight in peri-urban communities and whose actions can affect their development. The preparation of "Human Resources Maps" could be useful to this end, setting out the potential, capability, availability and willingness of individuals and groups in peri-urban settlements with regard to implementation of WSS projects.

- Methods and stages for citizens' involvement. Identification of various methods to involve citizens is required to make better use of the human resources available in peri-urban settlements. Following are some examples:

* acknowledgement of independent and autonomous initiatives;

* promotion of new activities in areas in which the will of the citizens has not yet turned into specific action;

* acknowledgement of specific roles citizens may play in relation to maintaining water and sewer mains, monitoring leakages, raising awareness, promoting hygiene education, etc.;

* a new attitude towards "target" populations, seeing "beneficiaries" as users or clients.

In any given case, it would appear useful to identify the stages in which citizens' participation would be useful. Attention should be paid not only to the planning stage (public meetings, consultations, etc.), but also to identifying the role of citizens' organizations in implementing, managing, mantaining and monitoring WSS services.

- Interdisciplinary collaboration (e.g., between management, research, administration, etc.) in gathering information on areas targeted for WSS interventions. Interdisciplinary and interistitutional units (composed of engineers, economists, sociologists, citizens' representatives and others) could be formed within utility companies and/or local governments to collect data and provide realistic, unbiased information on target settlements and the prevailing social situation within them.

- Adoption of participatory development approaches such as Primary Environmental Care (PEC). PEC is defined as a process in which, with varying degrees of outside help, a community is empowered to satisfy basic needs and improve its living environment (MAE/DGCS, 1989, 1990-2). Key aspects of the PEC approach are the longer time frame of projects, the flexibility of their implementation schedules and the importance of an initial, pre-project phase in which contact is made with the community, priorities are defined in a participatory way and project objectives and means of implementation are set out. The PEC approach seems ideally suited to inspire the formulation of sector projects that are more demand-responsive; and the importance of responding to, and stimulating, demand in WSS projects cannot be stressed enough (cf., e.g., Cairncross, 1992).

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3. Cost Recovery and Resource Mobilization

Matters of Debate

3.1. Numerous questions raised in the studies dealing with the cost recovery issue remain open. Some examples follow:

* *whether inhabitants of peri-urban settlements possess adequate resources to cover WSS service costs;*

* *what forms of security can inhabitants of this sector offer for credit;*

* *whether loan repayment rates are adequate;*

* *whether successful credit programmes for poor families, carried out to date in some areas on a small scale, can be applied on a large scale in the peri-urban sector;*

* *whether financing by international development agencies is a disincentive to the development of local economic capacity;*

* *whether and to what extent proven credit schemes for low-income families aimed at productive investments and shelter improvement are applicable to infrastructure programmes;*

* *whether and to what extent the community's rate of approval of local government influences their willingness to pay for public services;*

* *how to reconcile the "business" ethic with which utility companies should function with the need to subsidize the low-income segment of the population (in particular, whether the redistributive function can be carried out in part by utility companies or if it should be the exclusive domain of public administrations);*

* *whether support for the low-income segment should be implemented through cross-subsidies, or by a single tariff coupled with direct subsidies to vulnerable groups;*

* *what are the most practicable mechanisms and institutional arrangements for breaking down large loans from financing organizations into the small loans required by participatory approaches in the peri-urban sector.*

Ideas and Suggestions

3.2. The above considerations show that the studies examined are a source of ideas and suggestions for cost recovery that merit further discussion, as for example:

- Involving citizens and sharing responsibilities. To reduce the additional cost caused by illegal connections, morosity in payments and failure to maintain the installations, citizens must be involved and encouraged to share responsibility for the services. This is also a prerequisite for calculating long-term costs through previsional models and for establishing tariffs on the basis of actual consumption patterns. Utility companies and water boards should experiment with new forms of consumer relations, instituting periodic consultation with local consumers to explain the tariff system and its advantages, to give advice on maintenance requirements and to hear complaints concerning poor service, water leaks, errors in measuring consumption, etc.

- Information collection and coordination. Interest in cost recovery is a relatively recent trend in international development cooperation. Information as to political and economic approaches to, and methods for, cost recovery in different geographical areas is scarce and heterogeneous. There is a need, therefore, to collect, classify and disseminate data and information on the subject, at the local and national levels, and at the regional and global levels. Moreover, it should be noted that problems such as planning and instituting tariff systems have non-economic implications (social, cultural, political and legal) and involve several entities at the same time (national and local governments, WSS utilities, external support agencies, grassroots organizations, individual citizens, and so on). Each of these entities has different views, concepts and expectations on WSS services, and also - and this should be stressed - information, know-how and experience that could be valuable to decision-makers on the various levels. On the basis of the available experience, it would seem an important step in the right direction to undertake a concerted field research effort, and disseminate its findings among the various key institutional players in countries.

4. Appropriate Technologies

Matters of debate

4.1. The studies examined leave some questions unanswered with regard to appropriate technologies, as for example:

* *whether and in which cases, on considerations such as cost and adaptability to the local context, it is appropriate to import technology from industrialized countries;*

* *the level of technical complexity of maintenance that can be entrusted to local inhabitants; in what cases the utility company should be entirely responsible for maintenance instead;*

* *whether it is necessary to abandon - and, in which case, what are the most adequate technological options - public or communal installations (water points, public toilets, etc.) in favour of private solutions (yard-tap level water supply, private latrines, and so on);*

* *how to guarantee adequate levels of quality and aesthetic standards in WSS services (e.g., water seal, flush toilets, aesthetic quality of water) without incurring in common problems such as high cost and pollution of the environment (caused for example by the adoption of water-borne collection of sewage with no provision for its treatment), frequent even in industrialized countries;*

* *what WSS technologies appropriate for rural areas can be used in peri-urban settlements;*

* *how to ensure adequate on-site replicability of technological models.*

Ideas and Suggestions

4.2. From an overview of the question of appropriate technologies, as it has been treated by the studies examined, there emerge a number of ideas and suggestions for further study on the adaptability and sustainability of WSS technologies in peri-urban areas.

- Advanced technical research for peri-urban settlements. One suggestion that clearly emerges from the studies is to increase research and development on technical solutions for adapting WSS systems to peri-urban settlements. On the one hand, solutions that work in rural areas do not seem to work well in peri-urban settlements (cf. W. Hogrewe, S. Joyce, E. Perez, 1992), and, in general, there does not currently appear to be much research or testing specifically aimed at the shelter and infrastructure conditions of informal urban settlements. On the other hand, there are still many problems in the replicability at the local level of the low-cost systems now available (see # 4.12(d)).

It could be useful to implement an advanced research programme (sponsored jointly by various international organizations, universities, research centres and bilateral co-operation agencies) on appropriate WSS technologies for informal urban settlements. A programme of this kind could be useful to identify - by drawing on available know-how and expertise and carrying out applied research as needed - solutions to problems such as those caused by the difficult topography and geomorphological features of most peri-urban settlements' sites. In addition, such a programme could combine technical know-how and legal-urban management expertise to develop "alternative standards", providing alternatives for WSS systems in peri-urban areas.

- Integrated management of water resources. Such a research and development programme, however, should not neglect the important conclusions reached at the global level (e.g. in the Conferences of Dublin and Rio), on the integrated management of water resources, especially with regard to the close relationship between water supply and sanitation, which should ideally be seen as a hydraulic - and social - continuum. In addition, there is an ever greater need, especially in urban areas, to co-ordinate water supply with Primary Health Care (PHC) strategies, and to concur in the protection of underground and surface waters through the adoption of the Primary Environmental Care (PEC) strategic approach in water and sanitation projects.

- Development of appropriate standards and performance indicators for WSS services. A further area of concern is the development of real-world service standards that, in the words of the UNCED Agenda 21, «take into account the living conditions and resources of the communities to be served» (Agenda 21, #7.40). It is known, in fact, that ambitious *universal standards* (e.g., for drinking water quality or daily water consumption), being inapplicable in many local contexts, are often simply used as alibis by

governments and service agencies to justify their failure to extend service coverage.

The idea of adequate service levels implies the possibility to adopt and interpret standards according to local conditions. This is envisaged as forming part of the design of upgrading interventions, much in the same way as land-use regulations, that should be tailor-made to fit the situation of each settlement (in this respect, see also Working Document # 1).

Generally speaking, therefore, it would seem necessary to establish a hierarchy among the various standards, and a set of performance indicators that define the essential and the "optional" features of a WSS system, not only in relation to strictly technical aspects of water and sanitation systems, but also with regard to the inhabitants' expectations.

The definition of optimal or acceptable standards should also take into account a gradual, or incremental, perspective. Some standards (e.g., private facilities in dwellings) may be reasonable and desirable objectives in peri-urban settlements if they are taken as gradually attainable steps in an upgrading agenda, and not as the sole models for WSS services.

- Technical and engineering staff training. It would appear urgent and necessary to examine more closely the training of technical and engineering staff for the WSS sector, at the university and post-graduate levels. This presents two apparently irreconcilable requirements that must nonetheless be met. On the one hand, engineers are often required to take on planning, organizational and management roles. On the other hand, they must also provide technical expertise, which is a fundamental in WSS service extension. This means that technical and engineering staff must undergo training not only with regard to the so-called "soft" elements of the WSS sector, which are growing in importance, but also with regard to matters such as the instruments required for monitoring and maintainance, the replication of low-cost technological models and the integration between conventional and innovative or traditional technologies.

One final but very important requirement for the training of technical and engineering staff concerns the ability to work in an interdisciplinary environment with the other professionals - architects, urban planners, economists, sociologists, etc. - who, as it is increasingly realized, should also be involved in service extension to peri-urban settlements.

5. Institutional Reform and Capacity Building

Matters of Debate

5.1. The following are some outstanding matters of debate on the subject of capacity building:

* *whether it is better to aim institutional strengthening projects exclusively at municipal governments, or at national ones as well;*

* *what the most appropriate government level is for managing WSS services and, in particular, whether it is necessarily the same level as the one dealing with the legal status of informal settlements;*

* *whether and on what conditions privatization of WSS services is advisable, bearing in mind the need to improve the living conditions of the urban poor;*

* *what are the pre-conditions for an effective involvement of the private sector in WSS service provision;*

* *whether utilities' management and staff should acquire know-how and competence on non-technical and non-economic aspects of projects for WSS service extension;*

* *to what extent is it acceptable that external support agencies compensate for the weakness of host country institutions when these have problems in keeping pace with programmes;*

* *how to overcome the problems which prevent effective collaboration among the various external support agencies concerned in urban development programmes.*

Ideas and Suggestions

5.2. In light of what has emerged from the systematic analysis of the studies in the WG/U files, it is possible to offer some ideas and suggestions for institutional reform and capacity building.

- Information exchange. Exchange of information between municipal governments in developing countries and local authorities of donor countries on the experiences of associations between

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The idea of adequate service levels implies the possibility to adopt and interpret standards according to local conditions. This is envisaged as forming part of the design of upgrading interventions, much in the same way as land-use regulations, that should be tailor-made to fit the situation of each settlement (in this respect, see also Working Document # 1).

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* *to what extent is it acceptable that external support agencies compensate for the weakness of host country institutions when these have problems in keeping pace with programmes;*

* *how to overcome the problems which prevent effective collaboration among the various external support agencies concerned in urban development programmes.*

Ideas and Suggestions

5.2. In light of what has emerged from the systematic analysis of the studies in the WC/U files, it is possible to offer some ideas and suggestions for institutional reform and capacity building.

- Information exchange. Exchange of information between municipal governments in developing countries and local authorities of donor countries on the experiences of associations between

municipalities and between public utilities could be encouraged. Likewise, exchange of information between external support agencies, water utilities and national and local governments about the privatization experiences of public services already underway could also be fostered. In general, it seems advisable to expand available data banks and to promote international networks, so that results of research and know-how on the organization of peri-urban WSS services, in the framework of urban development, may be circulated freely.

- Technical assistance to local governments. It seems important to step up technical assistance from external support agencies to local governments, not only to disseminate the use of effective tools to collect information on the territory and on WSS services, but also to improve the installation and management of public utility services. Better technical assistance on the various aspects required to build a settlement upgrading capacity should also be extended to citizens' organizations and NGO's. New computerized information systems for WSS service monitoring, such as the WASAMS package produced by WHO and UNICEF, should be adapted to the urban context, with the development of special indicators related to the peri-urban sector and to the performance of utilities in general.

- Institutional reforms. It seems necessary to encourage institutional reform on four levels:

* on the local level, through the decentralization of responsibilities currently associated to the national level (and not properly taken care of at that level), through the promotion of associations or consortia of municipalities, through the institution of specific mechanisms for enhancing dialogue between administrations and citizens' organizations, as well as between the former and utilities, and through attribution of management autonomy to WSS authorities;

* on the national level, through new regulatory tools (which define rules, jurisdictions and responsibilities), through the harmonization of existing regulations, through the promotion of national associations of WSS utilities, and through the institution of coordination mechanisms between WSS boards and government organizations intervening in the urban development sector;

* on the regional level, through the promotion of a progressive integration of the various national legal and regulatory frameworks (step by step with commercial integration), and the creation of coordination and service networks among grassroots organizations;

* on the international level, through the development of proposals for WSS service standards that will serve as guidelines to local governments and that are the result of common international cooperation strategies, through the establishment of new institutional mechanisms for coordinating the programmes of the main international organizations operating in the urban sector (UNCHS (Habitat), UNDP, UNEP, UNICEF, WHO, World Bank, etc.), and through the intensification and harmonization of programmes promoted by countries belonging to economic organizations such as OECD, OPEC and others.

- Training. It is important to promote training initiatives involving various actors with administrative, political and managerial responsibilities for urban WSS services, and especially: utility managers and directors, local administrators, leaders of citizens' organizations, NGO staff, officials and experts of external support agencies. Such training initiatives could be centered around subjects such as: social and economic implications of service provision and extension in peri-urban areas; the organization of labour and management technologies; staff selection and training; accounts and administrative management; commercial management; the legal and regulatory framework for service extension and management in urban and, in particular, peri-urban areas; EDP management technologies; and activity monitoring. These initiatives should be based on up to date adult training techniques.

- A new urban development paradigm. The paradigm for urban planning and development in developing countries has always been based on a faithful reproduction - albeit with adaptive touches - of imported models. This has helped to shape many a central district, while the rest of the city was left to its own devices. The new urban development paradigm that is necessary to weave the peri-urban sector into the fabric of cities should, on the contrary, dig its roots into the *real* city, building on what is already there. In order to render such a new paradigm operational, new cognitive instruments to expand knowledge on the underserved portions of cities are required. In this context, the dissemination of new personal computer applications such as UNCHS (Habitat)'s *Visual Settlement Planning* system would seem particularly useful (see also Working Document # 1).

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6. Water Resources Conservation and Management

Proposed Recommendations

- establishing institutional and legislative frameworks for integrated water resources planning and land-use management;

- use of economic and regulatory incentives to enhance water conservation and re-use;

- use of financial instruments (e.g. the "polluter pays" principle) to protect water resources;

- more efficient allocation of water among competing uses;

- better management of water demand;

- establishing an equitable, city-wide cost-recovery framework;

- introducing charging structures reflecting the full marginal costs (including opportunity costs);

- developing charging policies that enable the poor to receive basic services;

- undertaking monitoring and surveillance in order to prevent water pollution and to improve water management;

- control of physical losses and improvement of measuring and charging mechanisms to reduce unaccounted-for water;

- establishing and enforcing water and effluent standards based upon a realistic appraisal of health risks, environmental impacts and development objectives;

- implementing national programmes to introduce sanitary waste disposal facilities, based on low-cost improvable technologies;

- coordinating management of solid waste disposal with excreta sanitation and waste water;

- coordinating water supply with Primary Health Care (PHC) strategies, and concurring in the protection of surface and ground waters through the adoption of the Primary Environmental Care (PEC) strategic approach in water and sanitation projects;

- promoting public information and communication campaigns on water resource protection and pollution prevention.

Annex 5
List of Texts or Studies Employed for the Preparation of the WG/U Report

In this Annex, you will find a list of the texts or studies employed for the preparation of the WG/U Report.

The following information is given for each entry, when available:

- Data Base code;
- author or authors (individuals and/or institutions);
- title (in the original language);
- city of publication;
- year of publication.

Please note that

1. the following list contains the texts present in the WG/U Data Base as of 31 December 1992; the preparation of the Report was also based on sources that reached us after that date (in which case they are mentioned in each chapter as part of the list of References), as well as on numerous comments and suggestions from various WG/U members;

2. Data Base codes are composed by a letter (W or C), which indicates respectively whether the entry was submitted by a WG/U member or by MAE/DGCS (in which case the letter is W), or was already present in CERFE's archives (in which case the letter is C). The letter is followed in either case by a number which reflects the order of insertion into the WG/U Data Base;

3. the following list is not a conventional bibliography. Since its aim is just to allow easy reference to readers of the WG/U Report, the order of presentation of studies simply reflects that of their insertion into the Data Base during research activities;

4. in the many cases in which several studies were gathered in the same document or source, this is indicated by a final letter in the Data Base code (e.g., W8SA). The 271 documents in the WG/U Data Base correspond thus to the 400 studies or texts employed as "analysis units" in the preparation of the WG/U Report;

5. interruptions in the progressive order of Data Base codes are due to the elimination of some entries that were deemed, after analysis, irrelevant to the study;

6. the heterogeneity of WG/U sources, most of which are inputs sent by members (case studies, articles, conference papers, published or grey literature, as well as reports prepared specifically for WG/U), entails that one or more of the above items of information may be missing from a given entry;

7. authors of texts published by UN or other international organizations are not necessarily staff members of said organizations; moreover, the city of publication is sometimes omitted when the entry was published by one or more UN organizations or well-known international institutions.

W1
KULSHRESHTHA S., SOMLYODY L., KACZMAREK Z.
INTEGRATED WATER RESOURCES MANAGEMENT: SOME RESEARCH NEEDS
IIASA, LAXENBURG, 1992

W2
UNDTCD
INTEGRATED WATER RESOURCES PLANNING
NEW YORK, 1991

W3
WHITTINGTON D., LAURIA D.T., WRIGHT A.M., CHOE K., HUGHES J.A., SWARNA V.
HOUSEHOLD DEMAND FOR IMPROVED SANITATION SERVICES: A CASE STUDY OF KUMASI, GHANA
UNDP-WORLD BANK WATER AND SANITATION PROGRAM, WASHINGTON DC, 1992

W4
NAZRUL L., AMIRUL L., KHADEM A.
EVALUATION OF THE GRAMEEN BANK'S RURAL HOUSING PROGRAMME GRAMEEN BANK
CENTER FOR URBAN STUDIES, UNIVERSITY OF DHAKA, DHAKA, 1989

W5
LE MASSON H.
PERSPECTIVES A L'AN 2000 DU MARCHE DE L'EAU DANS LES PAYS EN DEVELOPPEMENT. COLLOQUE HYDROPLAN DU 12 FEVRIER 1992

W6
THE FIRST COMMODITY, IN "THE ECONOMIST", 1992, MARCH 28

W7
GILGUY Ch.
LE MARCHE MONDIAL DE L'EAU A L'HORIZON 2000: DES ENJEUX A L'ECHELLE PLANETAIRE, IN "MARCHES TROPICAUX", 1992, FEVRIER 21

W8
LOVEI L., WHITTINGTON D.
RENT SEEKING IN WATER SUPPLY, EXECUTIVE SUMMARY,
WORLD BANK, WASHINGTON DC, 1991

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KATKO T. S.
RESELLING AND VENDING WATER, IN "JOURNAL AWWA", 1991, JUNE

W10
DJERRARI M. F.
DES ASSOCIATIONS DE DISTRIBUTION D'EAU ET D'ASSAINISSEMENT EXPERIENCE DES PAYS EN VOIE DE DEVELOPPEMENT
UNION AFRICAINE DES DISTRIBUTEURS D'EAU, ABIDJAN, (1990)

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FAO, WHO
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WASTEWATER USE AND WATER SUPPLY MANAGEMENT
GENEVA, 1992

W11B
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URBANIZAÇÃO DE FAVELAS EM DIADEMA, NO PERIODO DE 1983 A 1988
SÃO PAULO, 1992

W13
PLACIDO DE ALMEIDA M. A.
A EXPERIENCIA DE URBANIZAÇÃO DE FAVELAS EM DIADEMA
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W14
ABIKO A. K.
HABITAÇÃO, FAVELA E SUA URBANIZAÇÃO
SÃO PAULO, 1990

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PROFAVELA - LEGISLAÇÃO DO PROGRAMA DE REGULARIZAÇÃO DE FAVELAS : COMENTARIO GERAL
BH COM NOVOS HORIZONTES, BELO HORIZONTE, 1984

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PROJETO DE INFRA-ESTRUTURA SANITARIA E DE SAUDE PUBLICA NA FAVELA DA VILA PINTO - CURITIBA - PARANA' - BRASIL
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TOVA M. S.
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WASH, WASHINGTON, 1992

W18
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BOMBAY, 1991

W19
OFFICE OF THE CHAIRMAN OF THE WATER SUPPLY AND SANITATION COLLABORATIVE COUNCIL
SURVEY OF THE GRANT AND LOAN CONDITIONS APPLIED BY DIFFERENT ESA's IN THE WATER SUPPLY AND SANITATION SECTOR
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PREPARED FOR WGAU, NEW DELHI, 1992

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PARTICIPATION AS PROCESS:WHAT WE CAN LEARN FROM GRAMEEN BANK, BANGLADESH
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DE MARGINALES A INFORMALES
DESCO. LIMA. 1990

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HHWSSB. THE REGIONAL CENTRE FOR URBAN AND ENVIRONMENTAL STUDIES
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HYDERABAD. 1992

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HELMER R.
WATER AND SUSTAINABLE URBAN DEVELOPMENT AND DRINKING WATER SUPPLY AND SANITATION IN THE URBAN DEVELOPMENT (COMMENTS)
WORLD BANK. WASHINGTON DC. 1992

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BRISCOE J.
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WORLD BANK. WASHINGTON DC. 1992

W26
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UNICEF. TEGUCIGALPA. 1991

W33
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CAPACITY BUILDING FOR WATER RESOURCES MANAGEMENT
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Urbanization Issues
in Water Supply and Sanitation

Urbanization Working Group of the Water Supply and Sanitation Collaborative Council

Report adopted at the Rabat Meeting of the Council

7-10 September 1993

Volume 3: Rabat Meeting - Report of Group 2 Discussion

Working Group Coordinator
Mr Ivo Imparato, Ministry of Foreign Affairs, Italy

WATER SUPPLY AND SANITATION COLLABORATIVE COUNCIL (WSSCC)

RABAT MEETING (7-10 SEPTEMBER 1993)

REPORT OF GROUP 2 DISCUSSION

URBANIZATION
September 7, 1993

I SUMMARY OF CURRENT SITUATION

1. Update

Both the product and the process of the Working Group on Urbanization were commended. There was general agreement on the situation analysis, but participants did add a number of insights:

1. The fact that WSS service expansion in peri-urban areas is a sound investment, stimulating economic activity, needs to be recognized and further explored.

2. While the report recommends great caution in the adaptation of rural technology for use in peri-urban areas, it was felt that it is actually a viable option in many situations, especially in Africa.

3. There is a need to distinguish between "de jure" and "de facto" tenure security. In many cases "de facto" security is sufficient.

4. The relationships between finance mobilization, cost recovery and people's participation need to be more firmly established.

5. The political aspects of peri-urban WSS development need to be further discussed, along with the political repercussions that arise if WSS systems are not developed.

6. The cost recovery issue is more than just a financial matter. The importance of pricing as part of a structure of incentives needs to be recognized, since it may lead among other things to a more responsible use and a more sensible allocation of water.

7. The crucial importance of institutional reform and capacity building and the need for urgent action on those topics were stressed by the French participant.

2. Barriers to achievement

- Cost recovery is still difficult to implement in many countries, and its absence is a major barrier to achievement. This should not be seen as an ideological issue. Rather, it should be recognized that sound financial management of utilities is actually in the interest of consumers.

- High costs of development are unaffordable to the urban poor. There have been cases where costs have been lowered to an extent where people invest in and build their own systems (Orangi Pilot Project in Karachi and Brazil) with technical assistance from NGOs and the State.

- Although there was a consensus on the need for an integrated approach to WSS development, it was recognized that it is a complex affair and needs a planning process and people to plan. These are not easily available.

- Policy reform and institutional reform (rather than just institutional capacity building) are required for the sector. A country level understanding and situation analysis is necessary for that purpose (Lebanon is currently undertaking it).

3. Relevance and usefulness of the Working Group Report

By and large, the Rabat Group felt that the Working Group Report was very relevant and could be a useful tool for developing and managing water supply and sanitation services in the peri-urban sector. However, some participants voiced the view that no such report is enough to lead to the development of appropriate and viable plans because local level conditions may require major modifications to its analysis and approach.

II PROPOSED AMENDMENTS TO THE WORKING GROUP REPORT

No major amendments to the Working Group Report have been proposed. However, the need to reconcile the "global approach" to "local problems" was stressed again and again.

III AGREED RECOMMENDATIONS

A. By the Council, through its Secretariat, Chairperson and Working Groups

The demand-driven nature of the Working Group on Urbanization, as evidenced by the great interest shown by the many WG members, was recognized. The Rabat Group has recommended that there should be some way to actively encourage the implementation of WG findings. The solution envisaged was not the continuation of the Working Group, but rather the establishment of a network of participating institutions and individuals, building on the existing one. Such a network would be a Council-mandated activity, to disseminate Working Group findings and gather feedback from the field on ongoing projects, to update the existing information bank and make it available, and to undertake research on priority topics identified in the WG Report.

B. By Council Members, individually or collectively

- A number of recommendations were made from the floor. Most of them were directly or indirectly in support of the recommendations put forward by the Working Group on Urbanization.

- It was felt that interested Council members should take part in the above-mentioned network, that would not be a Council-sponsored Working Group, but would have a WSSCC mandate and would be made use of/supported by governments, bilateral and multilateral agencies.

- It was also pointed out that institutional and policy reform is really an implementation issue which is unique to a given situation. As such, beyond the further research that is required, we must "structure the learning we are doing together".

- The data collected by the Working Group, as well as its findings, should be made available to Universities.

- TOR should be developed for determining what the Council-mandated network should do for the future.

IV TOOLS AVAILABLE

The areas of concern, basis for action and guidelines contained in the Working Group Report were endorsed. Moreover, interest was expressed in the lessons learned from the following cases discussed by the Rabat Group:

1. Analysis of the post-war situation in Lebanon.

2. The approach to tackling peri-urban sanitation problems adopted in Curitiba, Brazil.

3. The work of the Orangi Pilot Project in Karachi, Pakistan.

4. The South African case, as outlined by the representative of the African National Congress.

V UNRESOLVED ISSUES

1. Position to be adopted by ESAs when difficulties arise in the application of the principle of cost recovery, such as a limited appreciation of the role of pricing and a scarce willingess and ability to pay for services, particularly common in the case of sanitation.

2. The pressure on utilities to operate in the peri-urban sector solely in accordance with an emergency perspective is very strong. Can and should water be properly planned for and supplied to unstable "illegal" settlements in cases in which they are likely to be demolished and shifted?

3. Monitoring projects on the basis of what has been learnt by the Working Group was proposed as a follow-up activity. Some felt that this was not possible.

VI TOPICS FOR FURTHER STUDY

The recommendations on matters requiring further research and empirical testing put forward in the Working Group Report have been endorsed. Apart from those, the following recommendations were made by the Rabat Group:

1. Further study of cost recovery from a more holistic viewpoint, with particular regard to incentives.
2. Measures to be taken by utilities for a step-by-step progression towards full cost recovery and access to capital markets.

3. A study of the possible "paths" for incremental service improvement in peri-urban areas ("upgrading agendas").

4. Establishment of clear criteria for technology choice by decision makers, regarding both conventional and innovative options.

VII AGENCIES WILLING TO PARTICIPATE IN FOLLOW-UP ACTIVITIES

The organizations or countries that have shown interest in taking part in the above-mentioned WSSCC Mandated Activity on services for the urban poor are the following, in alphabetic order: France, Italy (MAE/DGCS and CERFE), UNCHS (Habitat), USAID and WEDC (UK). In additional informal contacts, Austria, DANIDA, NORAD, SIDA, SDC and WaterAid expressed interest in receiving information on the MA with a view to future networking.

The above-mentioned countries and organizations would make up the core of the new network and would be charged with jointly preparing its Terms of Reference. The MA on services for the urban poor would report on activities to the Council at its next meeting.