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THE AIM OF THE NETWORK AND ITS JOURNAL

The Network of African Countries on Cost-effective Building Technologies has the objective of strengthening local technological capacity through facilitating information flow, regional cooperation and transfer of appropriate technologies in low-cost and innovative housing delivery systems in African countries.

The Journal of the Network, currently published biannually, aims at providing a channel for information that is available and could be used by professionals, technicians, researchers, scientists as well as policy and decision-makers. It is a medium for information exchange and facilitator for acquiring suitable technologies and know-how by needy countries.

Efforts are made to compile, process and publish articles and technical papers originating, mainly from the African region. However, as deemed appropriate and subject to availability, research findings and technological information from countries outside the African region are also included to stimulate interregional cooperation as well.

CONTRIBUTIONS TO THE JOURNAL

This Journal welcomes information or articles on low-cost innovations in building technologies. Information in the form of technical and policy papers, illustrations, news items and announcements of events can be sent from individuals or institutions in the private or public sector, from within and outside the African region. All correspondence on the Journal should be addressed to the Chief, Building and Infrastructure Technology Section, Research and Development Division, UNCHS (Habitat), P.O. Box 30030, Nairobi Kenya.

The views expressed in this Journal do not necessarily reflect those of the United Nations. Mention of firm names and commercial products do not imply the endorsement of UNCHS (Habitat). The reprinting of any of the material in this publication is welcome, provided that the source is mentioned and one copy sent to UNCHS (Habitat).

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Harare, Zimbabwe
Readers of this *Journal* might have noticed that the title of the Network and its *Journal* has been modified to read:

**Network of African Countries on Cost-effective Building Technologies**

This has been done in an attempt to diversify and broaden the scope of the Network and to target its *Journal* to a wider audience. This decision has been made following consultations with a number of African Government delegates and professionals who were attending the second United Nations Conference on Human Settlements (Habitat II) held in Istanbul, Turkey in June 1996.

It is hoped that this modification, which encompasses the construction-related recommendations of Habitat Agenda adopted by the Habitat II Conference, would provide an innovative approach to facilitating information flow and regional cooperation in appropriate building technologies, in general, and in the construction industry, in particular, in the African region.

The editor

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A construction process using durable materials. Courtesy LCHS, SIDA, Sweden
SECOND UNITED NATIONS CONFERENCE
ON HUMAN SETTLEMENTS (HABITAT II) -
"THE CITY SUMMIT", ISTANBUL,
TURKEY, 3 - 14 JUNE 1996

This issue of the journal is devoted to the Habitat II Conference which was held in Istanbul, Turkey from 3 to 14 June 1996. The Conference was attended by representatives of 171 states, 25 United Nations agencies and 22 Intergovernmental organizations. In addition, thousands of participants from non-governmental organizations, local authorities, the private sector, journalists and individuals representing different agencies and institutions from civil society attended the Conference.

During the high-level segment of the Conference, 117 heads of State, Governments and their personal representatives attended the Conference and made statements.

The Conference through its Resolution No. 1 adopted the Istanbul Declaration on Human Settlements and the Habitat Agenda: goals and principles, commitments and the global plan of action. The Conference, also by this same Resolution recommended to the General Assembly of the United Nations to endorse the Istanbul Declaration and the Habitat Agenda at its fifty-first session in the fourth quarter of 1996, in New York.

SUMMARY BACKGROUND ON THE HABITAT II CONFERENCE

The aim of the first United Nations Conference on Human Settlements, held in Vancouver, Canada in 1976, was to develop strategies to mitigate the effects of rapid urbanization. In the two decades since then, urbanization and the growth of mega-cities have continued relentlessly. Recognition of the urgency of the problem led participants at the 1992 United Nations Conference on Environment and Development (UNCED) to request the convening of a second United Nations Conference on Human Settlements (Habitat II) to address problems of adequate shelter and urbanization.

In 1992, the General Assembly of the United Nations decided to convene the Habitat II Conference in 1996. It established a Preparatory Committee and assigned UNCHS (Habitat) the duties of secretariat for the preparation of the Conference. At its first session, in April 1994 in Geneva, the Preparatory Committee recommended that the Conference aim to increase awareness of the problems and potentials of human settlements, and to commit the world's governments to making cities, towns and villages healthy, safe, just and sustainable.

The second session of the Committee, held in May 1995 in Nairobi, concentrated on elaborating the draft statement of principles and commitments and the global plan of action of the Habitat Agenda. Also during the session, the Committee recommended that the General Assembly authorize - as a departure from established procedure - representatives of local authorities and non-governmental organizations to participate without the right to vote in the deliberations of the Conference.

The Conference's main themes were: "Adequate Shelter for All" and "Sustainable Human Settlements Development in an Urbanizing World". The Habitat Agenda, adopted by the Conference offers a positive vision of sustainable human settlements where all have adequate shelter, a healthy and safe environment, basic services, and productive and freely-chosen employment.

In view of the significance of this major international event, the foreword and the editorial of this issue are replaced by excerpts from the statements made by the Secretary-General of the United Nations and the Secretary-General of the Conference.
The Secretary-General of United Nations, Dr. Boutros Boutros-Ghali addressing the Habitat II Conference on 3 June 1996. Photo: Amrik Kalsi, UNCHS (Habitat)

The United Nations Conference on Human Settlements (Habitat II), is the last in a series of United Nations conferences that have shaped, during the 1990s, an agenda for development. At the same time, this Conference, in its innovative design, is a new departure for the United Nations. We should all be conscious today that the decisions taken here in Istanbul will be of significance not only for the world of today, but also for the world in which our children must live and prosper.

I do not wish to pre-empt our discussions over the next few days, and I shall not, therefore, treat the various issues before the Conference. However, there are three points which, in my opinion, can provide useful background as you embark upon your conference debates:

1. Habitat II as a link in a series of international conferences,
2. Habitat II as an innovation in international conferences,
3. The Habitat Agenda as a follow-up to this international conference.

Habitat II as a link in a series of international conferences

... following the end of the cold war, it is important to view development as a cooperative venture, as an endeavour where all partners can benefit from the fruits of growth. This vision of development was in sharp contrast to the understanding of development as a zero-sum game, where the gains of one economy necessarily meant the loss of others. A cooperative vision of development stems from the basic premise that there can be no isolation, that, in a rapidly globalizing world, we all have stake in the management of growth and development.

Starting from this premise, therefore, and from this vision of development as a cooperative endeavour, the United Nations launched a series of world conferences and summits linked to development. ...

These conferences have been criticized for their cost. Some have criticized their lack of achievement. I wish here, from this forum, to state, in the strongest possible terms: I consider the conferences of the United Nations central to the work of the Organization, essential to the fulfillment of its mandate, and crucial for the determination of the future of life on this planet.

People have journeyed to Istanbul by thousands for this Conference. Nearly 50,000 went to Beijing to set new standards for the role of women in society, and some 47,000 came to Rio de Janeiro to find a better balance between economic growth and environmental sustainability. At Copenhagen, for the World Summit for Social Development, 118 Head of State or Government came to express their concern over the issues of unemployment, marginalization and social disintegration.

The conferences of the United Nations, and the action programmes and agendas produced by these conferences, together form an agenda for development committed to by the world community. Through these conferences, development cooperation will be revitalized and reinvented. The United Nations, its Member States and you, the delegates at the conferences, are deciding development patterns for future generations. You are deciding the form of development cooperation to be adopted by the United Nations; you are setting the standards by which the actions of States, organizations and individuals will be judged. This is the importance of the international conferences of the United Nations. This is the context of the next few days at Istanbul.

Habitat II as an innovation in international conferences

But your presence here today is far more than just the continuation of a pattern set by the Earth Summit in 1992. Each conference has its specificity, its own qualities that distinguish it from all the others. In the case of Habitat II, you have gone farther than other conferences in recognizing the universality of the issue of human settlements.

The range of participants here today provides ample evidence that this is truly a conference of partners. Representatives of all the institutions and organizations of civil society here at Istanbul will be presenting their respective platforms and commitments before the Conference.

Broad-based national committees have completed more than 120 national plans of action identifying national priorities for the sustainable development and growth of human settlements. Local authorities, on which the implementation of Habitat II will depend, have joined non-governmental organizations as full partners of this Conference of the United Nations. Even more, we shall have the private sector, as a dynamic power for growth, represented in every aspect of Habitat II.

The United Nations is primarily an organization of States. However, the increasing contribution of non-State actors is essential if the United Nations is to succeed in its work. Indeed, the active participation of non-State actors in the work of the United Nations is an essential aspect of the democratization of the international system.

I am pleased to see that, in addition to this spirit of partnership, there is a turn towards realistic solutions rather than
good intentions. Over 100 national committees have contributed more than 700 Best Practices to the Best Practice Initiative for Improving the Living Environment. Many of these initiatives illustrate, in concrete examples, how we can act on these issues already identified in Agenda 21, and in the agendas for action on population and development, social development, small island States and women adopted by preceding United Nations conferences.

The "Habitat Agenda" as a follow-up to this international conference

We have come a long way from Vancouver and the first United Nations Conference on Human Settlements. In the last 20 years, the world has changed in dramatic ways. But the problems we faced in the 1970s have not disappeared. Poverty, hunger, disease, population imbalances, the lack of equity are still with us.

Human Settlements, and especially cities, are indeed becoming a key factor in the complex equations of the growth and development, environmental sustainability, human rights and the eradication of poverty.

By the year 2000, almost half the world's population will live in urban centres. Problems of jobs, housing, infrastructure and environmental safety will increasingly acquire an urban face. By the year 2025, urban dwellers will total sum 5 billion people and 80 per cent of them will be in developing countries.

...Inner city dwellers, the inhabitants of insalubrious slums or marginalized favelas, ghettos and barrios, share in the misery, dangers of their health, and a vision of hopeless unemployment and marginalization. But such common problems also provide the basis for common action, for mutual learning, for cooperation in finding solutions.

This common purpose should not, however, blind us. In some regions of the world, we must balance our concern with cities and towns with a need to develop rural settlements and the rural economy. In other regions rapid urbanization accompanied by rapid economic growth has resulted in great gaps in infrastructure, spiralling land prices, housing beyond the reach of most, and growing environmental decay. In the most urbanized parts of the world, cities are becoming the focus of national policy. What joins us all, is the awareness that human settlements will be central to growth and sustainable development. Our policies must reflect this.

Our collective response will be the Habitat Agenda - a global plan of action that embodies our vision of human settlements for cities, towns and villages that are viable, safe, prosperous, healthy and equitable. This is our vision of the common future, this must be the spirit of Istanbul.

My final words relate to the world beyond the next two weeks. For I am certain that before you adjourn, there will be full agreement on what will be known as the Istanbul Plan of Action. In that sense, success is not in doubt. But, as in all other United Nations global conferences, real success will be measured over the years by the degree to which participants in Habitat II live up to what they will commit themselves to in Istanbul. Central and local governments, municipal authorities, civic organizations and all other non-governmental organizations, bear the heavy responsibility of implementing, in good faith, the decisions of Istanbul.

The United Nations family of agencies and programmes shares this responsibility and will play a central role in this monitoring and accountability process. The people of the world will be watching and will call all of us to account.

EXCERPTS FROM THE STATEMENT OF THE SECRETARY-GENERAL OF THE UNITED NATIONS CONFERENCE ON HUMAN SETTLEMENT (HABITAT II), DR. WALLY N'DOW, DURING THE OPENING CEREMONY OF THE CONFERENCE IN ISTANBUL, TURKEY ON 3 JUNE 1996

In the course of our preparatory work for this Conference, we have all encountered the fallout of the urban explosion that in less than half a century has literally changed the face of our planet: cities springing up everywhere; the exponential statistics of homelessness and inadequate shelter affecting hundreds of millions; slums and shanty towns larger than the original cities that spawned them; and all the urban ills now spreading with the speed of a plague - poverty, crime, drugs, disaffected youth, paralyzing traffic, polluted air and water, unhygienic sanitation compounded by a growing shortage of potable water - the fist is long the ills the common denominator of urban life today.

Yet bad as conditions are in the city - and no one in any country, rich or poor, can doubt that they are getting worse - the situation in rural settlements of many developing country is even more desperate, and that is no less our charge. The spotlight is on our urban areas, but let no one make any mistake about it: our task is to shine that spotlight whenever people huddle in the dark shadows of their despair - in mega-city or
hamlet - without the most elementary facilities for decent living. The well-being of the rural dweller is no less the business of this Conference. Their future is no less at stake in the urbanizing world of tomorrow. And with world population in the decades ahead growing at the rate of a quarter of a million people a day, the likelihood now is that by far the greater part of these rural dwellers will end up in the shadows, too, either homeless or in shelter that constitutes an insult to their very humanity.

We are here in Istanbul not merely to talk about these things. The time for talk is long past and the time for action is here. For our cities, with their densely packed concentrations of humanity, are nothing less than social time bombs, capable of setting off collisions of powerful forces that might otherwise peacefully coexist, with all that this implies for the stability of the international system and for the United Nations itself.

There is another no less serious implication, too. It is that the unresolved problems of our human settlements also threaten a new global division between rich and poor, within and between nations. And with dramatically increasing numbers of people living in poverty, it is a division that may well become the dominant characteristic of the new global urban world order, with consequences at least as dangerous as the period of East-West rivalry the world has only recently left behind.

For all the problems and difficulties of urbanization, we cannot stop it, nor should we. Not only is it at the heart of the new world in the making, it is the engine driving it. Indeed, it has long been recognized that urban centres and the economic activities associated with them constitute the biggest contributor to many a nation's wealth. Our "global economy" is singularly dependent on the fact that cities work, that their institutions work, that their communications work, that their laws work.

Today, no country can be a success if its cities are failures. As never before, the fate of nations and cities are interwined. Indeed, the fate of humanity is tied to what is happening - and what will be happening - in our cities. For it will be in cities and towns where solutions will have to be found for new and old challenges, where the scourges of hopelessness, poverty, and environmental decay will have to be met, where we have to take on the challenge of social disintegration, and forge the bonds of human solidarity without which our future will be neither peaceful nor assured. It is where we must localize the ideas of Agenda 21 to build the foundations of sustainable growth and development for generations yet to come and for prosperity in a globalized economy.

Here today, in Istanbul, we stand before a new reality. The recipes of the past can no longer suffice. A new global social contract for building sustainable human settlements must be forged. Such a contract must reflect the transformation of the world's political, economic and social environment over the past twenty years: the globalization of the market economy and the rising recognition of the role of private economic forces in development growth, the increasing vitality and, indeed, volatility of the forces of civil society transforming once voiceless masses into an active, demanding citizenry.

We have only to look at the unprecedented growth of non-governmental organizations and other social organizations to see that any global project, or national undertaking, must today have the support of the economic, political and social forces of all society to succeed and must, therefore, reflect their needs and aspirations. Today, local authorities and communities must be engaged not as passive bystanders, but as active participants and partners. For partnership and enablement are the keys to forging a strategy for sustainable human settlements, and forging such a strategy is what the preparatory process for Habitat II has set in motion.

I am happy to say that the fruits of this effort are much in evidence here at Habitat II. We see it in the composition of official delegations and in the diversity of other participants who have worked unselfishly to make this Conference a reality. The commitment of Governments and their National Committees to the Habitat II process was an ongoing source of inspiration to our preparations for the Conference. Our other partners, the local authorities, the non-governmental organizations, the private sector, research and academic institutions, the labour unions, foundations, women's and youth groups, professionals - all and more - were not only resilient in the face of obstacles, they were truly the co-creators of this process, of the innovations that characterized it, and the agenda for action that will be negotiated by this Conference.

The road to Istanbul has been marked by many innovations. One of seminal importance has been a pioneering change in the rules of procedure - a change that was initiated during the preparatory process and subsequently endorsed by the General Assembly in recognition of the important role of local authorities and non-governmental organizations, both in the debate and in the implementation of the Habitat Agenda. As a result, all the organizations and institutions of civil society will receive unparalleled recognition at a United Nations conference, nominating their representatives to participate in a formal session. ... It would be difficult to overstate the importance of this change within the context of this Conference, particularly in enabling local authorities to take the floor in their own right.

They speak for countless millions of men and women in the cities and towns across the planet, the true constituents of Habitat II, and we need to open our doors - and our minds - to their hopes and aspirations.

Habitat II, moreover, will break new ground as a conference in its focus on demonstrated solutions. In many ways, the Best Practices initiative has begun the process of identifying where commitments have already been made to improve human settlements around the world. Hundreds of communities and cities worldwide, in developed and developing countries alike, have taken part in a mutual learning process and exchange of concrete experiences on how to solve common problems. It has brought the world together and forged bonds of future cooperation between and among far-flung cities and communities. The Best Practices Initiative underscores as little else does that this Istanbul Conference will be an action
conference dedicated to solutions, not to a litany of woes.

Furthermore, as part of the national preparatory process, cities and countries have begun to collect indicators on housing and urban conditions so that their national plans of action and future policies and programmes are shaped by priorities that, in turn, are shaped by accurate data and information. This will be a crucial element to the effective implementation of the Habitat Agenda and provides tangible evidence once again that we are not here to talk about the problems, but to do something concrete about them.

Our aim in the preparatory period has been to build the foundation for continuity and implementation in the post-Istanbul period. We have developed and honed the tools and mechanisms that will be vital to success. It is crucial, therefore, that at this Conference we accelerate our momentum by marshalling our political will and commitment to see the job through.

A key part of that job is directly tied in with the fact that Habitat II brings to an end a remarkable continuum of United Nations conferences held in this final decade of the century. In essence, it is a continuum that is rewriting the United Nation’s economic and social agenda, providing us with a more holistic, more humane message about our global problems and the cooperative solutions they require in the new century. And in this respect, these conferences are a unifying force in finding new pathways for human welfare and in advancing peace and stability.

The draft Habitat Agenda before this Conference identifies those human settlement issues considered to be of greatest importance and highest priority around the world. As a consequence of the preparatory process during which it evolved, it truly gives voice to the aspirations of global civil society.

On our journey to Istanbul, the Habitat Agenda took shape as a framework for commitments - an indicative plan that will serve as a guide to all key groups in making commitments to improve the living environments of all people. It acknowledges that Governments have the primary responsibility for implementation through their own actions, through enablement of partnerships and participatory processes and through coordination at each relevant level.

If there is a key to the Habitat Agenda, it is in the recognition of the fact that most of the implementing activities will take place at the local level, and must involve a variety of partners. And here States must take seriously their role of facilitator, enabler and supporter of these partnerships. This is the fundamental challenge of the Habitat Agenda for our urbanizing world. It is the challenge we will have to face together in our human settlements.

Particularly important in a rapidly urbanizing world is the tracking of progress and the evaluation of national and local efforts at implementation. The United Nations system has, as a whole, a responsibility here to support a national and local authorities in their efforts to implement the Habitat Agenda. In doing so, I suggest, we must first and foremost, strengthen and adequately equip the existing institutions which it has already established for this very purpose - the Commission on Human Settlements and its executing arm, the United Nations Centre for Human Settlements (Habitat).

As we start our deliberations, we need to see the challenge of the 21st century in very clear terms. The challenge is to extend the process of sustainable development to the whole human family ... For this we must be prepared to change. Change is the law of life, and the changes that lie implacably ahead will give the world’s cities new problems, new perils, new possibilities. One of the reasons we are in trouble today in the city is because until very recently we either did not know, or did not care, what was happening to it, and so were not prepared for the changes.

Today, even as we grapple with the changes that have created our present urban dilemma, what may be one of the greatest changes of all is inexorably taking place right before our eyes, and we are only vaguely aware of it. The world is beginning to undergo today a structural shift as profound as the industrial revolution - the shift from a factory-based economy to a computer-based economy, and this shift will be even more fateful than the industrial revolution...

As this Conference now gets underway, it is my hope that everyone here - delegates and representatives of national governments, mayors and other civic leaders, representatives of local authorities, non-governmental organizations, entrepreneurs, professionals, women men and youth - will strive to bring to our deliberations the vision and the commitment that brought them to this Conference in the first place: the promise of global social progress and a brighter future for our children and all coming generations. That is a responsibility we all share.

May our work here lay the foundations of the glorious cities of the future and fill the hearts of people everywhere with hope and felicity.
Recognizing the importance of the construction sector for delivering adequate housing and infrastructure facilities for millions of poor and low-income population worldwide, the second United Nations Conference on Human Settlements (Habitat II), held in Istanbul, Turkey in June 1996, underscored, among others, the direct relationship between construction sector and "adequate shelter for all" by including "Improving planning, design, construction, maintenance and rehabilitation" as a distinct action-area in the "Habitat Agenda". The Conference, while emphasizing the need for increased and environmentally-sound construction, adopted a set of recommendations/actions to be implemented by Governments and all other stakeholders so as to improve the performance of the sector globally. The section on construction (IV.B.3.1) which is part of the Chapter IV - "Global Plan of Action: Strategies for Implementation" - and is under the theme: "Adequate Shelter for All" as adopted by the conferences is given below.

88. With rapid urbanization, population growth and industrialization, the skills, materials and financing for the planning, design, construction, maintenance, and rehabilitation of housing, infrastructure and other facilities are often not available or are of inferior quality. Public policy and private investment should, together, facilitate an adequate supply of cost-effective building materials, construction technology and bridging finance to avoid the bottlenecks and distortions that inhibit the development of local and national economies. By improving the quality and reducing the cost of production, housing and other structures will last longer, be better protected against disasters, and be affordable to low-income populations and accessible to persons with disabilities, which will provide a better living environment. The potential for job creation and other positive external socio-economic impacts of the construction industry should be harnessed; its activity should be brought into harmony with the environment, and its contribution to overall economic growth should be exploited, all to the advantage of society at large. Institutional support should also be provided in the form of industrial standards and quality control, with particular attention to energy efficiency, health, accessibility, and consumer safety and protection.

89. Meeting the actual needs of individuals, families and their communities cannot be achieved by looking at shelter in isolation. Provision of adequate social services and facilities, improving and rationalizing urban planning and shelter design to cope firmly with the actual needs of communities, as well as provision of technical and other relevant assistance to the inhabitants of unplanned settlements are essential for the improvement of living conditions.

Actions

90. To respond effectively to the requirements for appropriate planning, design, construction, maintenance and rehabilitation of shelter, infrastructure and other facilities, Governments at the appropriate levels should:

(a) Encourage and support research and studies to promote and develop indigenous planning and design techniques, norms and standards to match the actual needs of local communities;

(b) Encourage public participation in assessing real user needs, especially gender needs, as an integrated action of the planning and design process;

(c) Encourage the exchange of regional and international experience of best practices and facilitate the transfer of planning, design and construction techniques;

(d) Strengthen the capacities of training institutions and non-governmental organizations to increase and diversify the supply of skilled workers in construction and promote apprenticeship training, particularly for women;

(e) Make use of contracts with community-based organizations and, where applicable, the informal sector for the planning, design, construction, maintenance and rehabilitation of housing and local services, especially in low-income settlements, with an emphasis on enhancing the participation and, thus, short- and long-term gains of local communities;

(f) Strengthen the capacity of both public and private sectors for infrastructure delivery through cost-effective, employment-intensive methods, where appropriate, thereby optimizing the impact on the creation of employment;

(g) Promote research, exchange of information and capacity-building with respect to affordable and technically and environmentally-sound building.
maintenance and rehabilitation technologies;

(h) Provide incentives for engineers, architects, planners and contractors and their clients to design and build accessible energy-efficient structures and facilities by using locally-available resources and to reduce energy consumption in buildings in use;

(i) Provide training to professionals and practitioners in the construction and development sector to update their skills and knowledge in order to promote the development of shelter programmes that serve the interests and needs of women, persons with disabilities and disadvantaged groups and that ensure their participation at all stages of the shelter development process;

(j) Adopt and ensure the enforcement of appropriate standards relating to planning, design, construction, maintenance and rehabilitation;

(k) Support private-sector initiatives to provide bridging loans to builders at reasonable interest rates;

(l) Support professional groups in offering technical assistance in planning, design, construction, maintenance, rehabilitation and management to community-based organizations, non-governmental organizations and others engaged in self-help and community-based development;

(m) Strengthen and make more transparent government regulatory and inspection systems;

(n) Join with professional societies to review and revise building codes and regulations based on current standards of engineering, building and planning practices, local conditions and ease of administration, and adopt performance standards, as appropriate;

(o) Support non-governmental organizations and other groups to ensure full and equal participation of women and persons with disabilities in the planning, design and construction of houses to suit their specific individual and family requirements.

91. To promote and support an adequate supply of locally produced, environmentally sound, affordable and durable basic building materials, Governments at the appropriate levels, in cooperation with all other interested parties, should:

(a) Where appropriate, encourage and support the establishment and expansion of environmentally sound, small-scale, local building materials industries and the expansion of their production and commercialization through, inter alia, legal and fiscal incentives and the provision of credit, research and development, and information;

(b) As required, provide policies and guidelines to facilitate fair market competition for building materials with enhanced participation of local interested parties and establish a public mechanism to enforce them;

(c) Promote information exchange and the flow of appropriate environmentally sound, affordable and accessible building technologies and facilitate the transfer of technology;

(d) With adequate attention to safety needs, reformulate and adopt building standards and by-laws, where appropriate, to promote and permit the use of low-cost building materials in housing schemes, and use such materials in public construction works;

(e) Where appropriate, promote partnerships with the private sector and non-governmental organizations to create mechanisms for the commercial production and distribution of basic building materials for self-help construction programmes;

(f) Evaluate on a regular basis the progress made in the pursuit of the above objectives.

92. To enhance the local capacity for environmentally-sound production of building materials and construction techniques, Governments at the appropriate levels, including local authorities, in cooperation with all interested parties, should:

(a) Intensify and support research efforts to find substitutes for or optimize the use of non-renewable resources and to reduce their polluting effects, paying special attention to recycling, re-use of waste materials and increased reforestation;

(b) Encourage and promote the application of low-energy, environmentally sound and safe manufacturing technologies backed by appropriate norms and effective regulatory measures;

(c) Adopt mining and quarrying policies and practices that ensure minimum damage to the environment.
CONSTRUCTION SECTOR FOR HOUSING AND INFRASTRUCTURE DELIVERY - AN ISSUE PAPER PREPARED FOR THE HABITAT II CONFERENCE

I. Introduction

The construction sector plays a leading role in the improvement of socio-economic conditions and the built environment in every country. The sector is an important contributor to capital formation and the rate of activities in the sector is a major indicator of the health of the economy. The level of that contribution has been measured in several ways - notably in terms of gross domestic product (GDP) of the national economy and of capital assets or gross fixed capital formation (GFCF). In developing countries, major construction activities account for about 80 per cent of total capital assets and a single investment in construction sector yields continuous benefits over a long period.

Apart from economic benefits derived in the process of producing housing and infrastructure for the low-income population, the day-to-day functioning of low-income settlements, in itself, is of significance to national development. Unfortunately, there are insufficient data establishing a correlation between the economic performance of low-income settlements and levels of investment in shelter delivery. However, the little evidence available suggests that low-income settlements do not just provide basic shelter for people but, in addition, are economic domains with links to the national economic structure. For example, a single investment in the provision of an access road, linking the settlement to the market structure, in a rural area, leads to a significant increase in commodity output and, hence, improvements in national economic performance.

The Global Strategy for Shelter to the year 2000 adopted by the General Assembly of the United Nations in December 1988 calls for a shift in government's role from the provider of housing to an enabling one. The strategy also recognizes construction sector activities as one of the key inputs to the production and improvement of shelter and identifies several priority action areas in support of the indigenous construction sector including local production of building materials.

This issue paper is designed to provide a brief overview on the major constraints the sector faces and on challenges and opportunities which exist that could help low-income house builders to build their houses using low-cost/locally-produced materials. For the convenience of participants and for effective and fruitful deliberations, some key areas for consideration have been included in the last chapter of this paper.

II. The limitations of the construction sector

Despite the fact that many developing countries attach a great interest to the development of their construction industry, the sector is, generally not considered as a clearly identified industry. It is an industrial sector that is often ignored by major actors, e.g. economists, planners, administrators and others concerned with development issues. Consequently the sector is not planned in a holistic manner, but rather, operates with fragmented and often conflicting components resulting in wastage, inefficiency and inability to plan for total development. In fact, one of the main reasons for these inefficiencies is related to the multi-sectoral nature of the construction industry which requires sound planning and decision-making.

Apart from not planning the construction sector in an integrated manner, the major problems facing the sector are related to deficiencies in the specific inputs required. A review of the various ways and means of constructing low-income housing and infrastructure suggests that the unsatisfactory performance of the industry is due to several inter-related factors such as:

(a) An inadequate supply of durable and cost-effective building materials;
(b) Lack of technological know-how for the construction of low-cost housing;
(c) Lack of adequate and favourable financing mechanisms for pre-financing low-income housing and infrastructure;
(d) Unfavourable regulatory mechanisms; and
(e) Lack of maintenance and upgrading strategies.

Furthermore, the construction industry in most developing countries has several deficiencies as far as its demand characteristics is concerned. Governments are usually the main clients of the construction industry, with a large demand for several categories of output by very limited financial resources to meet that demand. In the private sector, however, the bulk of the population is in the low-income or no-income category, and is not an effective market for the construction of shelter. In most developing countries, there are two basic approaches to construction of urban low-income shelter: public-sector

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** By Baris Der-Petrossian, Research and Development Division, UNCHS (Habitat). This paper was prepared and presented in a symposium on the same subject which was organized by the Settlement Infrastructure and Environment Programme (SIEP) of UNCHS (Habitat) and held as part of the Habitat II parallel events. The symposium was held in Istanbul on 5 June 1996.
construction programmes, and private-enterprise delivery of shelter. Almost invariably, the capacity of the public-sector option is very limited; it provides only marginal quantities of shelter, and the little that is produced is hardly ever accessible to the target group. On the contrary, the bulk of shelter construction for the low-income population results from the private formal and informal sectors which, in spite of facing various limitations, have made significant impact in shelter delivery over the past decades.

III. Basic resource inputs required by the construction sector

(a) Building materials

Building materials constitute the single largest input in the construction of housing and they sometimes account for about 70 to 80 per cent of the total value of a simple house. It is therefore important that building materials be made available in sufficient quantities and at affordable costs. However, building materials available on the market, in most developing countries are either prohibitively expensive and in scarce supply or of low quality. In some low-income settlements, the traditional building materials which have been popularly adopted over the decades are gradually declining in popularity. The fading popularity is probably due to the low quality of the traditional materials or to the relative attractiveness of "contemporary" building materials. Whatever the reason, this growing trend has had negative consequences on the low-income shelter-construction market.

In an attempt to overcome the problems of the shortage and high cost of building materials, many governments opted to establish large-scale factories to produce basic building materials. However, within a short period, many of these factories have been faced with numerous difficulties, arising primarily from the choice of imported technologies.

The absence of stable markets, exorbitant transportation costs and production interruptions resulting from the lack of spare parts and energy supply have often made production planning difficult, resulting in low-capacity utilization and scarcity of materials in the market.

The small-scale sector of the building-materials industry, however, has shown considerable potential in meeting the local demand, despite the fact that it often relies on traditional and outdated technologies. Lack of knowledge of innovative, energy-efficient and appropriate technologies based on local resources has been the biggest stumbling block in improving the productivity of this sector.

Even when low-cost building materials are attractive in terms of market price, there is still the problem of consumer biases against the products. For example, a preference for Portland cement, concrete blocks and corrugated steel roof-sheets, as against lime-pozzolana, stabilized soil blocks and natural fibre roofing tiles respectively, may not be based on cost considerations. Instead they stem from the lack of information on the technical properties of these innovative materials and the lack of awareness of the fact that costly materials can easily be replaced by innovative materials in building a simple house. The failure to use low-cost materials in government-sponsored housing construction projects is another serious constraint which limits the wide-scale adoption of these materials. Governments in developing countries are often the single largest clients of the construction industry; their efforts can easily popularize the use of these materials by private low-income house builders.

The above mentioned constraints in the building materials sector have the same negative effect on the provision of basic infrastructure as they have on housing supply. For instance, in rural areas and in urban squatter settlements, where public-sponsored programmes have provided water supply and sanitation systems, items such as sewers, septic tanks, latrine slabs and pavement tiles have mainly been procured from conventional suppliers, so that they have been also affected by the usual limitations of high cost and inadequate supply.

(b) Appropriate technologies

An important prerequisite for wide-scale application of appropriate building technologies is that the technologies involved are tested and widely known at local level. For example, appropriate technologies for the production of low-cost building materials have multiple advantages, including a reduction in the dependence on imported inputs, opportunities for developing substitute inputs from abundant indigenous resources and potentials for generating new and improved skills among local workforce. Appropriate technologies can also be useful for reducing the cost of construction output, which is particularly significant for the construction requirements of the poor.

In many countries, the main factor limiting the diffusion of a new technology is not so much related to setbacks in the transfer of technology at the international level but, rather, related to the inability of local institutions to translate successful research findings into commercial production. There are cases where technologies for production of low-cost materials have been developed by a local agency based on indigenous factor inputs, yet these findings have not been demonstrated on an extensive scale or replicated by any other agency.

The lack of requisite knowledge or techniques is an important factor limiting the wide-scale adoption of such materials. An indigenous building material, for example, can be sold at a low-cost on the market, however, where skills for appropriate use of it are deficient, the overall objective of low-cost construction will be defeated because of the excessive use of such materials. Where, skills are deficient, good-quality products could be wrongly applied in construction, thereby leading to unsafe and non-durable construction and, consequently, making a particular set of building materials, wrongly, unpopular.

(c) Financing construction

The construction industry is dependent on financing to purchase required inputs and to pay for labour costs. Shelter and infrastructure construction for the low-income population, even though termed "low-cost", is still dependent on financing, especially if conventional approaches are adopted. Any constraint in cash flow, therefore, could jeopardize a construction programme and, worse still, lead to cost escalations.
In most developing countries, existing public financial institutions do not fulfill the requirements for financial resources which are required for critical inputs in construction. The few available financing institutions have had little impact and the normal practice in private-sector low-income shelter construction is to depend on the builder's own finances which often are limited.

Financial resources are often more readily available in the private sector than in the public sector. Yet, in most developing countries, financing of public construction projects, which usually require large investments, are borne by public sources of finance. However, private-sector investment can be attracted with suitable conditions and interest rates. An example of this is the collection of tolls on highway projects as a means of paying back the investment.

(d) Regulatory measures, standards and specifications

Building acts, regulations and codes are the means by which authorities control construction activities for the purpose of ensuring safety and health in the built environment. Similarly, standards and specifications for building materials production and use, ensure stipulated quality of products used in construction. To a large extent, these regulatory procedures can determine the types of building materials, skills and construction techniques to be used in a given construction process. In this way, an opportunity is created to promote the use of appropriate building materials, so that the capacity of the shelter delivery can be enhanced. On the other hand, regulatory instruments can be formulated in a manner so as to prohibit the use of certain materials which are normally accessible to the low-income population and, thereby, limit the delivery of low-income shelter. For example, the use of soil in construction, probably, offers the best opportunity for most low-income settlements however, to build a safe and durable house in soil, requires some basic technical guidelines which can be provided through standards and specifications and permitted by building regulations.

The inadequacies of existing regulatory instruments have had negative effects on the provision of basic infrastructure to the low-income population in the same way as on shelter supply. Typically, existing public health acts and regulations, covering water supply, sanitation and solid-waste disposal, ignore actual practices in low-income settlements and do not offer any corrective devices to the unhealthy state of affairs and faulty trends in the minimal available infrastructure in low-income settlements. Rather, the regulations stipulate infrastructure standards which are far too costly for the target group and which, even if they were provided, could not be maintained with local resources and know-how.

(e) Maintenance and upgrading

The expected life-span of a building or infrastructure element presupposes that some basic regular maintenance will be provided during the service period of the facility. In normal practice, buildings and infrastructure also tend to be exposed to unexpected deterioration, thus requiring repair in addition to routine maintenance. Because of the low quality of construction in most low-income settlements, the concept of maintenance is even more relevant than in "high-cost construction". Maintenance is also crucial for low-income construction, because most low-income families cannot afford the replacement cost, should a building deteriorate to the point of failure.

Finally, given the low rate at which new dwellings and infrastructure are provided for the low-income population, a
logical option is to ensure that the little that is already available is sustained in use to the utmost point of its service life. One reason why low-income settlements lack upgrading is that there is a disparity between the importance attached to new construction programmes vis-a-vis upgrading of existing settlements. Almost invariably, any governmental programme of investment in low-income shelter and infrastructure is linked to construction of entirely new facilities. Another reason for the lack of response to upgrading of existing low-income settlements is that it is a more challenging task than the straightforward delivery of new construction.

(f) Small contractors

Contractors are one of the key components of the construction sector, as they are directly responsible for the physical realization of the designs prepared in response to the client’s needs and objectives. Small contractors in developing countries, even though can make great impact in the provision of housing and infrastructure, are often affected by several constraints which include:

(i) lack of technical and managerial expertise;
(ii) lack of adequate finance;
(iii) difficulty in obtaining essential resources, materials, equipment and skilled personnel; and
(iv) inadequate supervisory capabilities.

But these constraints could be easily removed, if adequate policies are in place and necessary support could be provided to them by governments, local and international communities. The ultimate goal which is to indigenize construction activities progressively and attain sustainable development and maintenance of built environment calls for strengthened small-scale contractors involvement in the sector, thus, improving quality of outputs and reducing costs.

IV. The role of communities, informal sector and women

Experience, over the past several years, has shown that involvement of communities, the informal sector and women in construction activities can considerably help in improving the human settlements conditions in most developing countries. Positive experiences in encouraging local initiatives by community-based groups and informal sector have demonstrated the many advantages and social opportunities such an approach can provide to marginalized groups. By mobilizing the skills and financial resources of the community, generating income and employment opportunities, and by giving the opportunity of participating in wider decision-making, this approach has proved to be a useful and effective measure to improve the housing delivery systems in many developing countries.

There are many successful examples of women’s cooperatives in the manufacture of building materials. For example, block making operations in Ghana are largely managed by women, and in Zimbabwe the rural brick making industry is dominated by women. Similarly in Kenya, the roofing tiles of a large public housing project were produced by women groups. Awareness-raising programmes and training opportunities set up to increase the number of women entering the construction industry have been found to be successful in a number of countries.

V. Health hazards of building materials

A variety of building materials contribute to different aspects of health hazards. Such materials include asbestos, solvents (e.g. toluene, xylene and dichloromethane), insecticides and fungicides (e.g. arsenic, dieldrin, lindane, pentachlorophenol), toxic metals (cadmium chromium and lead), and radon exhaled from building materials containing radium. Risks to health usually result from exposure to harmful environmental conditions in the extraction, production and use of certain building materials, and the disposal of related wastes. The harmful interaction of these factors and the human organisms occurs either by absorption through the skin, by intake into the digestive tract via the mouth, or by inhalation into lungs. The results of the interactions can be harmful to human health in a variety of ways, including: respiratory diseases such as asthma, heart diseases, cancer, brain damage or poisoning. The effects of the hazards may be slow, cumulative, irreversible, and complicated by non occupational factors such as smoking.

Some of the health hazards associated with building materials and the built-environment are well documented and programmes to reduce them are in place. Others are the subject of current and future research, consequently remedial measures are not yet in place. There is also low public awareness of the health hazards, and additionally many decision-makers are not fully informed or aware of the health implications of building materials. Inadequate information greatly inhibits the ability of the construction industry and other stakeholders in effectively responding to the challenge of controlling the health hazards associated with building materials. Therefore, there is an urgent need to design programmes at industry, national and international levels to raise the understanding of the health implications of building materials on a continuing basis.

Given the fact that environmental sustainability and risks to human health rank among the most important areas of social concern today, and given the variety of hazards which need to be addressed, and the different groups exposed to hazards, a range of control strategies need to be established and implemented.

VI. Environmentally-sound construction

The construction industry, as a major consumer of worlds’ natural resources and a potential polluter of the environment, is being closely scrutinized by the international community and many governments. With rapid urbanization and population growth, developing countries, are bound to use more energy intensive materials such as cement, steel, glass etc. than they were using 2 to 3 decades ago. Similarly, due to expansion of the construction sector in many countries, tropical hardwood, metallic and non-metallic minerals and non-renewable energy resources are used extensively, all of which are indications of certain threats to the capacity of natural resources, depletion of which will jeopardize the survival of future generation. The need, therefore, to introduce more sustainable construction practice is taking new urgency in the overall development
context of human settlements.

Energy is one of the main inputs to the construction and, particularly, in the building materials production processes. Of the energy used in the production of building materials, a high proportion is in the production of a small number of key materials such as steel, cement, bricks, concrete elements, aluminium and glass. Similarly, different types of construction systems (designs) result in considerable differences in the total embodied energy requirements in a complete house as indicated in the table below.

### Comparative energy requirements for three single-storey houses in Argentina

<table>
<thead>
<tr>
<th>House type</th>
<th>Embodied energy requirement (MJ/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>House made primarily with manufactured materials (hollow-brick walls, concrete frame and roof)</td>
<td>1583</td>
</tr>
<tr>
<td>House made partly with manufactured materials (clay-brick walls, concrete frame, steel-sheet roof)</td>
<td>1314</td>
</tr>
<tr>
<td>House built primarily with local materials (adobe walls, timber frame, steel-sheet roof)</td>
<td>590</td>
</tr>
</tbody>
</table>

Source: UNCHS (Habitat), 1991

The process of socio-economic development through increased construction activities and protection of the environment are not separate challenges. The sustainability of development cannot be ensured in a climate where growth plans consistently fail to safeguard the environment and arrest the degradation of the natural-resource base and the ecosystem as a whole. It is for this reason that Agenda 21, adopted by the United Nations Conference on Environment and Development (UNCED), underscores the importance of the sustainable construction industry activities as a major contributor to the sustainable human settlements development.

While increased awareness and knowledge of the implications of resource depletion and environmental degradation caused by the construction industry activities have resulted in taking some action in the industrialized countries, the developing countries, particularly in sub-Saharan Africa, have made very little progress in arresting this situation. Their position is even more desperate given that many of them are faced with fragile environments involving aridity, desertification, flood occurrences and other types of natural hazards.

### VII. Proposed points for discussion

In the light of the above mentioned issues, participants may wish to consider the following points for discussion:

(i) Which are the important public policy areas that affect the performance of the construction and building materials industries?

(ii) To what extent policies in other sectors can affect the construction industries?

(iii) How can appropriate and new technologies be harnessed, transferred and adopted so as to improve the productivity of the construction sector?

(iv) What measures should governments, private sector and communities take to improve financing of construction sector?

(v) What measures should governments and local authorities take to revise the existing building regulations to encourage the use of low-cost/appropriate building materials in low-cost construction?

(vi) What strategies should be adopted to create a culture for maintenance of buildings and infrastructures?

(vii) How can international cooperation support the communities, informal groups and women to be more involved in shelter and infrastructure delivery?

(viii) In what ways governments and international community can support local initiatives to promote energy-efficient and low polluting building materials production technologies?
The Secretary-General of the Habitat II Conference, Dr. Wally N'Dow visited a model brick production site during the Conference. Photo: Amrik Kalsi, UNCHS (Habitat)
Non-governmental organizations (NGOs) and community-based organizations (CBOs), for the first time in the history of the United Nations, were able to state their positions on Habitat II issues and offer proposals as to their roles in the follow-up to the Habitat II Conference.

After a warm welcome from the Chairman of Committee II - the "partners' committee" - NGO representatives affirmed their commitment to the goals of the United Nations. A speaker on behalf of the present NGOs, stressed that although NGOs had often been perceived as "troublesome and critical", they had traditionally played a vital watchdog role in the follow-up to a wide range of United Nations resolutions, declarations and plans of action, such as the one being negotiated in Istanbul. Moreover, NGOs had more often acted as the real popular conscience on social, economic and environmental issues within national and international contexts.

In the opening statement it was also stressed that the presentations made did not and could not adequately represent all partners in the NGO community partly because of the wide divergence of opinion that exists within their ranks and partly because of the extremely short time that had been allocated to each partners hearing in Committee II. Several NGO caucus representatives who addressed the Committee stated that transparency and accountability were valued in the NGO community. They expressed a firm commitment to partnership with government at all levels and with the private sector.

The role of women in shelter and human settlements development and sustainability was highlighted by most of the speakers, who were themselves predominantly women. A speaker after noting the major role that women play in the struggle for and consolidation of shelter and communities, said "Evictions around the world are the greatest threat to the well-being and development opportunities of poor communities. The non-recognition of the rights of communities within countries coupled with the current paradigm of economic development are the major causes of eviction".

Another speaker argued that though women were strong in community organizations, they were weak in national and international decision-making systems. She urged women to accord greater access to relevant institutions of government and international cooperation. One tangible way to achieve this would be for the international community and governments to create enabling legal frameworks and provide finance for capacity-building within women's groups and for NGOs that are assisting women's groups to develop their skills and knowledge.

When contributions were invited from the floor, the great majority of national delegations from developed and developing countries expressed strong support for the participation of NGOs and for the increased role of women in the processes of shelter improvements as well as in social and environmental matters generally. A few delegations raised questions about whether the NGO panel presentations were fully representative of all the views among them. It was asked whether Committee II would come out with a recommendation that reflected what the NGOs were saying in the meeting. The Committee chairman indicated that the Committee would report to the Plenary and that the Plenary would take note of what had been said.

A speaker said "NGOs have been independent and what they have achieved has been done without the support of governments. There is a need to create a vehicle for partnerships." The speaker noted that NGOs had been the major monitors of the follow-up of earlier United Nations conferences.

In the second segment of the session a series of short NGO presentations were made by panelists covering the issues of the Disabled Persons, Youth, Rights and the Child, International Law and the Family, and the Environment. A participant, speaking on behalf of the disabled, stressed the need to involve disabled people in the design of settlements and the need for them to work with the NGOs in the follow-up to Habitat II so as to improve their situation in an urbanizing world. The meeting was also reminded that all the major problems associated with urbanization - unemployment, rural-urban migration, crime and urban environment deterioration - impacted most strongly on youth. The Rights of the Child Caucus representative highlighted the plight of street-children, child labourers and girl children.

An NGO representative stated that the void of the traditional family had not been strong in the Habitat II Conference. There was a need, he believed, for dialogue between family-oriented NGOs and lawyers as there were complex issues facing both in the cities of today. Another NGO representative pointed out the need to utilize Local Agenda 21 to deal with the deteriorating urban environment and environmental conservation globally.

In the Committee discussion that followed, there was general emphasis on the role of the NGOs in the various areas presented by the panelists. Several speakers from the NGOs expressed
the need to follow-up the partners' Dialogues started in the preparatory process of Habitat II and voiced the need for this to be sustained and for UNCHS (Habitat) to play a key role in the process.

Several speakers urged a dialogue between NGOs and governments and the need to place the poor themselves at the heart of their own development process. They stressed the need for credit mechanisms to reach the poor as the NGOs have found the poor to be credit-worthy as "without credit there was no development possible".

In the final segment of the meeting, the presentations from the NGO Regional Caucuses covering Africa, Latin America and the Caribbean as well as the Middle East and Arab Region were heard, each highlighting their particular problems. These were followed by presentations on the implementation of the results of the Conference and the importance of NGO involvement in the process. A number of national delegations responded positively. Other delegates questioned the motives and roles of NGOs especially when they interfered in internal politics. However, many national delegations asserted their confidence that NGOs had a vital role to play and were vital to achieving the goals of the Conference.

Note: Text has been taken from a press release produced in Istanbul.

The Secretary-General of Habitat II Conference is discussing the production process of a low-cost building material during an exhibition in Istanbul. Photo: Amrik Kalsi, UNCHS (Habitat)
As part of their preparations for Habitat II, 30 African States met in Bamako, Mali from 28 to 29 May 1996 at the 15th Annual General Meeting of the Company for Habitat and Housing in Africa (Shelter-Afrique) to consider, inter alia, the status of human settlements and housing in Africa and to develop housing investment strategies for the next five years. The countries were represented at Habitat II in Istanbul by their national delegations as well as a high-level delegation from Shelter-Afrique. The company is jointly owned by 37 African Governments, the African Development Bank, African Reinsurance Corporation and Commonwealth Development Corporation.

Over the last 10 years, Shelter-Afrique has co-financed shelter and related projects in a number of countries including Kenya, the Gambia, Uganda, Zambia, Senegal, Guinea, Cameroon, Gabon, Congo, and Nigeria. These projects, which are financed through loans, are targeted at low-income and middle-income households and have helped thousands of African families not only to build or purchase their own homes but also to gain access to essential services such as water, sanitation, schools and health centers. Previously homeless and landless families in cities as far away as Kampala or Conakry have, through Shelter-Afrique’s efforts, managed to become property-owners and gain a foothold in the formal economy.

By working in collaboration with national governments, local communities, local authorities and the private sector it was possible to make significant improvements in the living conditions of the families concerned.

Over the next five years, Shelter-Afrique expects to invest over US $100 million in various projects in the urban sector. This initiative is designed to attract additional private-sector and international resources so as to achieve a significant impact on post-Istanbul efforts.

From its headquarters in Nairobi, the company oversees the design and implementation of project pipeline of some 60 projects. It takes great care to ensure that local professionals, suppliers and contractors are actively involved in all stages of project development, so as to build local capacity and also extend project benefits as widely as possible. Training has in the past been provided for African professionals in a variety of skills ranging from management to mortgage administration. In fact, the need for competent housing finance professionals is so great that existing training facilities in Africa cannot cope with the demand.

In his statement to the Habitat II Plenary, the Managing Director, recalled the company’s active participation and contribution in the preparatory process of Habitat II and stressed the company’s commitment to the post-Istanbul implementation process. Shelter-Afrique had maintained close consultation with African Governments at the preparatory meetings held in Nairobi, Dakar, Kampala, Brazzaville and Johannesburg. The Managing Director also called upon all African countries which were not yet members to join Shelter-Afrique at the earliest opportunity.

The Company realizes that expansion of shelter development and delivery in Africa is hampered not only by the scarcity of financial resources but also by the absence of vital information on socio-economic conditions as well as the availability of land, infrastructure and services. To that end, it has, jointly with the United Nations Economic Commission for Africa (UNECA), sponsored the preparation of a Continental Shelter Atlas for Africa and a Regional Report on the State of Human Settlements in Africa. The atlas provides member states with key data and indicators on shelter and related socio-economic conditions. It will assist all actors in the public and private sectors as well as voluntary and women’s groups to focus their efforts towards improving human settlements in Africa and make adequate shelter available for all.

Note: Text has been taken from a press release produced in Istanbul.
1. INTRODUCTION

Construction costs in India are increasing at around 50 per cent over the average inflation levels. With inflation rates getting into double digits of around 10 per cent (April 1995), the construction costs have registered increase of up to 15 per cent over 1995, primarily due to cost of basic building materials such as steel, cement, bricks, timber and other inputs as well as cost of labour. As a result, the cost of construction using conventional building materials and construction forms range from Rs. 3000 to Rs. 4000 per sqm for housing. This is only in respect of the standard types of housing. Higher cost levels are registered for using better finishes and amenities. Construction cost of this order is beyond the affordability of the economically weak and low-income groups of population as well as a large cross section of the middle-income groups.

Therefore, there is a need to adopt cost-effective construction methods either by upgrading of traditional technologies using local resources or applying modern construction materials and techniques with efficient inputs leading to economic solutions.

This has become the most relevant aspect in the context of the large volume of housing to be constructed in both rural and urban areas and the consideration of limitations in the availability of resources such as building materials and finance.

2. AVAILABILITY OF COST-EFFECTIVE TECHNOLOGIES

Cost-effective building materials and construction technologies are fortunately available in India. These are developed by the various research and development bodies in the country, namely:

- Central Building Research Institute (CBRI),
- Structural Engineering Research Centre (SERC),
- Centre for Application of Science and Technology to Rural Areas (CASTRA),
- Regional Research Laboratories (RRL),
- National Environmental Engineering Research Institute (NEERI), and many others.

These technologies have proved to be appropriate and viable in the context of low-income housing delivery and a vast majority of population is using them in many regions of the country. A brief description of some of these technologies are given in the following parts of this paper.

2.1 Walling materials

The designs for housing units range from single to multi-storied, depending on the local situation (rural, urban and metropolitan) and the needs of target groups and the pressure on land. The materials used for walling can consist of:

- Mud
- Sun-dried bricks
- Rammed earth
- Stabilized soil blocks
- Kiln-burnt bricks
- Laterite/stone
- Timber/bamboo
- Stone block masonry
- Precast/factory-made walling units using light weight cellular concrete
- Concrete hollow blocks
- Ferro-cement

Mud, sun-dried bricks and rammed earth are used extensively in many regions depending on the availability and quality of existing soils. Stabilization of soil is done by stabilizers like cement, lime, asphalt, molasses. Laterite masonry blocks are available in Karnataka and Kerala. Stone masonry using dress stone and rubble is used in Rajasthan, Madhya Pradesh, Jammu, Kashmir and many other places. With the strength of kiln-burnt bricks being of the order of 40 to 200 kg/sq.cm in Indo-Gangetic plain (Haryana, Uttar Pradesh, Bilhar and Bengal) it is possible to use single brick load-bearing walls of up to five storeys. Half brick thick zig-zag pattern load bearing walls are used in many housing projects of Uttar Pradesh. Adoption of "Modular" bricks can also effect savings in the use of brick and mortar.

Another very innovative area where cost reduction can be achieved is in the use of economical and innovative bonding systems using, for example, "rat trap bond" as against "English and/or Flemish bond". Over 25 per cent saving in bricks and mortar is achieved with proven structural strength and better thermal efficiency. The technology has not only proved to be useful and economical but also has resulted in aesthetical housing options.

***This is an edited version of a paper produced by Mr. V. Suresh, Director Corporate Planning, Housing and Urban Development Corporation, (HUDCO), India. This paper was presented to one of the Habitat II parallel events: "Symposium on Construction for Housing and Infrastructure Delivery", organized by Settlement Infrastructure and Environmental Programme (SIEP) of UNCHS (Habitat). The symposium took place in Istanbul on 5 June 1996.
Stone-block masonry is an R & D contribution using stone blocks and lime/cement mortar, made by semi-skilled labour. Its use is effectively demonstrated in HUDCO low-cost housing project in Ghaziabad, Alwar, Faridabad, Hyderabad and elsewhere.

In the North-eastern region, which is a seismically active region, the conventional system of timber, bamboo, mat-based wall system called “Ekra” walling is a traditionally popular and structurally sound walling system. With appropriate R & D inputs, it is possible to give plaster over cladding material with stretched wiremesh and appropriate frames of timber or reinforced cement concrete (RCC).

Factory made cellular concrete wall panels have been used at Madras, Pune, Bombay, Ahmedabad and Delhi. In situations where it is not possible to have access to masonry building blocks made of local materials, recourse has to be taken to manufacture masonry blocks. This could cover aerated light weight concrete blocks and hollow concrete masonry blocks.

Flyash which is a waste emanating from thermal power plants can be utilized with advantage for either flyash-based bricks or aerated light weight blocks. There are many modes of application of flyash using various technologies developed at CBRI and other research institutions in the country.

The hollow concrete block masonry can be used both as structural/non-structural elements. Large prefabricated panel units have been used in mass construction schemes. However, its application in the country has been limited mainly due to the limitations in lifting/erecting equipments as well as weaknesses in joints of wall to wall and roof to wall interaction locations.

Hollow concrete block masonry has been able to make a major impact lately, primarily because of the poor quality of burnt brick and also high cost of the local fuels namely timber and coal for burning kilns. In Bangalore, most of the houses constructed by co-operative societies, private builders are taking recourse to use hollow concrete block masonry for walling. Many of the building centres countrywide are also able to contribute to the increased use of hollow concrete blocks as willing material.

2.2 Roofing materials

Reinforced cement concrete (RCC) roofing slabs are predominantly used in many housing projects more so in the urban context. But the use of the many economic alternatives can play a major role in large housing projects. The various alternative systems that can be used are:

- Clay/micro-concrete tiled roofing with insulation over timber/ferrocement rafters
- Stone roofing with distributors
- Terraces with insulation - Madras Terrace
- Corrugated sheet: asbestos, galvanized iron (GI) and asphaltic
- Prefabricated brick panel
- 'L' panel roofing
- Filler slab roofing with various filler material
- Clay tile - RCC batten roof
- Precast cellular concrete roofing unit (calcem roof)
- RCC channel units
- Precast joist and hollow block construction
- Precast RCC solid planks/joists
- Funicular shells over edge beams
- Precast plate floors
- Ferrocement roofing elements
- Filler slab roofing with various filler material

Using prefabricated roofing elements, large-scale housing projects can be constructed economically. There are many successful applications of these systems in different parts of the country.

2.3 Doors and windows

Timber is used for door and window frames and shutters and also for structural and non-structural walling and roofing units in different parts of the country. With a view to effect the economic use of timber and also conserve the primary species of timber, use of secondary species of timber has been resorted to by giving appropriate seasoning and chemical treatment before use. However, time has come to look for alternatives to timber. The use of steel shaped frames as well as precast concrete and magnesium oxidechloride cement door and window frames is becoming increasingly popular. Precast concrete door/window frames are competitive in cost and function and do not need repetitive maintenance.

The precast concrete door and window frames have got considerable acceptance both by the public and private house builders. The latest contribution is the use of ferrocement doors based on the initiative of the Auroville Building Centre at Pondicherry. In view of the scarcity and high cost of timber, the need for replacing timber with alternates has become a necessity. Therefore, the use of precast door and window frames as well as ferrocement shutters are gaining considerable

Concrete is being spread over a durable roof. Courtesy HUDCO, India

19
momentum in the housing scenario in the country. Use of precast hollow decorative blocks has also become very popular mainly through the work of building centres as well as private sector entrepreneurs. With regard to door shutters, the use of alternatives like cement bonded particle boards, bamboo boards are becoming popular in many regions.

2.4 Other elements

The scope for the use of precast elements is coming into sharp focus for areas of application such as:

- Thin precast lintels
- Thin ferrocement precast shelves
- Ferrocement based sanitation units/cladding
- Ferrocement water tanks
- Precast well rings for water wells
- Precast sanitation unit rings
- Precast septic tanks
- Ferrocement bio-gas units
- Precast jalousies
- Precast poles for street lighting
- Precast posts for boundary walls

The use of ferro cement water tank has become very popular in the last one decade in and around Madras and Tamil Nadu based on the good work being done by SERC and the training now being imparted to the large number of masons, bar-benders and concrete work force. Similarly the use of precast well rings for water well has also caught up because of their popularity and the fact that they are manufactured by private sector outlets as well as through the building centres. This has become very important because of the need for pumping ground water in the areas where surface water is scarce.

The sanitation schemes using twin pits is also giving rise to the manufacture of the rings for sanitation. A major programme on low-cost sanitation has been launched by the Government and it is hoped that the precast sanitation rings would contribute substantially in this direction. The precast poles for the street lighting has become increasingly popular for the land development as well as electricity boards due to scarcity of timber poles and also the exorbitant cost of the same. Even metallic telephone poles are being often replaced with precast concrete poles.

3. PROGRAMME FOR NATIONAL NETWORK OF BUILDING CENTRES

Despite considerable efforts made by the Government and relevant institutions, the technologies developed by various R & D bodies have, often remained at laboratory level and very limited exposure to these positive achievements have been made at field level.

In a bid to overcome this limitation, an institutional mechanism was set up in 1986 to strengthen the local capacities so as to enable them to absorb and implement the successful R & D findings in low-income housing construction. To this effect the Nirmithi Kendra (Building Centre) was established in August, 1986 in Quilon (Kollam). The Quilon Building Centre has played a very crucial role in ensuring appropriate technology transfer to field through proper training of artisans in production of building materials and application of appropriate construction techniques in many housing and building projects. The successful results achieved by this Centre has now blossomed into National Programme of Network of Building Centres.

Considering the potential of the grassroots-level technology transfer through an institutional mechanism, the Government of India decided to launch a national programme for setting up building centres in all districts of India. The programme was cleared by the Finance Minister in the budget proposals on 29th February 1988 through the following statement:

"There is a great scope for using local low-cost materials in housing. Our scientists and engineers have also developed considerable experience in low-cost housing technology. It has been decided to set up a national network of Nirmithi Kendras or Nirmithi Kendras which will provide easy access to low-cost housing materials and techniques. It is proposed to set up one Kendra in each district. In the coming year, 100 Kendras will be set up."

The building centres essentially serve the following five areas of work:

(a) Technology transfer from 'lab' to 'land' by disseminating information on cost-effective technologies in urban and rural areas;

(b) Skill upgradation and training of masons, artisans, carpenters, other building related work force including professionals and entrepreneurs in various cost-effective building materials production techniques and construction systems;

(c) Manufacturing/production of cost-effective building materials/components based on local, natural or waste resources and providing sales outlets for the various user groups;

(d) Creating a pool of trained rural/urban construction workforce and meet the diverse needs of housing and building construction and other developmental activities undertaken by individual households or public housing/development agencies utilizing appropriate and cost-effective building technologies;

(e) Providing guidance, information and counselling on housing and building construction matters;

3.1 Organizational set-up

In the initial years, building centres have been established with district administration-driven model where the initiative was to come primarily from the district collector and district
administration. However, during the evolutionary stages in the last five years, the building centres are being established under various leadership models as given below:

(i) by state Government, district administration, local bodies, block development offices, rural development agencies;
(ii) by the state/central housing agencies/undertakings;
(iii) by the research and development institutions;
(iv) by educational, training, management organizations engaged in teaching, skill/entrepreneurship development in the areas of housing, building and construction;
(v) by non-governmental organizations, voluntary bodies and charitable trust societies;
(vi) by professionals, developers, builders and entrepreneurs individually or collectively;
(vii) by construction workers' cooperatives, contractors/builders' associations, cooperative housing societies.

It is hoped that the above flexibility of establishing and operationalising building centres through flexible leadership would substantially help in giving the right level of autonomy and operational effectiveness.

HUDCO has been entrusted with the nodal role of establishment of National Network of Building Centres by the Ministry of Urban Development, Government of India. HUDCO has formulated an Action Plan Manual identifying the various administrative, technical, financial, organisational and management requirements for the establishment of building centres in respect of:

- the institutional set up and requirements for running the centres;
- land for putting up the building centres;
- the building required for the centre with adequate rooms, building materials storage spaces and offices for personnel;
- identification of tools, equipment and other machinery to have them on stock;
- training requirements.

As far as financial inputs are concerned, initial funds are made available by the Government of India through grant assistance for building, equipments, machinery, tools and also training, covering cost of trainer and trainees. So far an amount of Rs.200,000,000 has been made available for each centre covering Rs.50,000 for building, Rs.50,000 for equipments, machineries and tools and Rs.100,000 for training support on behalf of the Ministry of Urban Development and administered by Housing and Urban Development Corporation (HUDCO). Some of the state governments/housing agencies/development authorities have also made contributions in form of grant assistance for the development of building centres in their respective districts.

Following the initial results achieved by building centres, a review was carried out by an expert panel on behalf of the Government of India. The expert group had noted that while the Building Centre Movement has caught up well in some states, it has not taken root in many other states. With a view to making the Building Centre Movement spread its activities on a nation-wide basis in all states, the expert group had come forward with many recommendations. One of the recommendations has been to increase the grant assistance form the present Rs. 200,000 to Rs. 500,000 for each centre. This would cover land and development assistance as well as for covering the costs for running the centres.

The breakdown of the proposed financial requirement of each centre is given in the table below:

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>PERCENTAGE</th>
<th>COST (RUPEES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land/development</td>
<td>10</td>
<td>50,000</td>
</tr>
<tr>
<td>Building</td>
<td>20</td>
<td>100,000</td>
</tr>
<tr>
<td>Equipment, machinery and tools</td>
<td>20</td>
<td>100,000</td>
</tr>
<tr>
<td>Training</td>
<td>30</td>
<td>150,000</td>
</tr>
<tr>
<td>Overhead, such as water, electricity connection, etc.</td>
<td>20</td>
<td>100,000</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>500,000</td>
</tr>
</tbody>
</table>

3.2 External assistance

The German Credit Bank for Reconstruction (KFW) has decided to provide assistance for the expansion and improvement of the operations of building centres with a grant-in-aid of up to Rs.1,000,000 for land and development, building, equipments, etc. It is, therefore, possible to dovetail the funds available from the Government of India and KFW and allocate larger starter corpus of funds for building centres. It would also help in making the building centres economically and financially viable with this type of support. The KFW support of DM 10 million would give supplementary financial support to 200 building centres.

The work of building centres can also be attached to the district development programmes where substantial amount of integrated projects are implemented. The uniqueness of the programmes is the integration of the district development activities and dovetailing these with the building centre activities, so that the trained construction workforce can be deployed in housing and other building construction activities taking place in the district.

In addition, certain supplementary R & D grant is made available by HUDCO for demonstration of technologies as well
as establishing testing facilities/equipment for enhancing quality control.

Furthermore, additional soft loan assistance is also made available by HUDCO for the capacity building programmes for building centres. The loan assistance covers costs of additional machinery/equipment as well as working capital needs.

3.3 Training programme

Training is given to the local workers to familiarize them with conventional/innovative technologies. Training in building centres is given for three categories of workers: skilled, semi-skilled and unskilled. The training duration differs for different categories:

(a) For skilled masons/carpenters/bar-benders: 2 to 3 months training on upgrading skills in the field of new technology and alternative building materials production and use.

(b) For semi-skilled work force the training period is 4 months.

(c) For unskilled and unemployed rural youths, the training period is 6 months. In this period an indepth training will be given to them on various conventional and new technologies and alternative products.

The ideal age group for trainees are:

<table>
<thead>
<tr>
<th>Labourer Type</th>
<th>Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled labourers</td>
<td>30 to 40 years</td>
</tr>
<tr>
<td>Semi-skilled labourers</td>
<td>20 to 35 years</td>
</tr>
<tr>
<td>Unskilled labourers</td>
<td>15 to 20 years</td>
</tr>
</tbody>
</table>

3.4 Professionals

In-service professionals of various construction departments also need substantial exposure on the availability of the alternative technologies and the application methods. For the professionals of various construction departments both at state and central levels, it is necessary that appropriate orientation programmes are organized. These could be for three weeks to one month for mid-level executives and executive engineers and may be a week for superintendent engineers and above.

3.5 Progress

During the last six years of operation, the Building Centre Movement has got off fairly well and substantial amount of progress has been made for identifying locations for setting up building centres, including organizational set up, land allocations and administrative approvals for inclusion in the National Network of Building Centres. Currently the Network has expanded to over 375 centres in different parts of the country.

The latest position of progress as on April 1995 is given below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Building centres identified</td>
<td>421</td>
</tr>
<tr>
<td>(b)</td>
<td>Organizational set up constituted</td>
<td>390</td>
</tr>
</tbody>
</table>

As a result of the success of the Building Centre Movement achieved so far, several new initiatives are coming up, namely the establishment of state level building centres/modal agencies to coordinate, guide, assist in the work of building centres. Appropriate linkages for technology adoption, preparation of technical literature in curriculum are also considered to be an important activity of the building centres. Furthermore, there are some additional initiatives taken to establish building centres so as to take care of the needs of rural areas. For disseminating technologies in remote areas, the concept of mobile building centres are also promoted (Nirmithi Vahini).

As part of HUDCO's Silver Jubilee initiatives, 4 Nirmithi Vahini have been commissioned for Kesnik, Auroville, Verlore and Candhigram building centres.

Another significant area where the building centres are able to play a role is in imparting the right level of practical training to the professional architects, engineers and diploma holders for contributing their skills and capacities in actual implementation of projects, using various technologies. Students of architecture and engineering in architectural schools and engineering colleges are also increasingly getting exposed to the new technologies. Till now, very limited exposure has been given to these areas in the professional colleges. This has been felt as a typical gap in the educational curriculum. Attachment of students to the building centres for practical field exposure and hands-on training have contributed significantly in these efforts.

The Building Centre Movement has been able to provide training for over 41,000 construction workers over the last five years on many cost-effective and innovative technologies and techniques of construction.

It has also been able to take up the construction work for houses/buildings with the lowest cost in different parts of the country. These cover the houses for all categories of government housing agencies, cooperatives, individuals, and social and community amenities such as schools, primary health centres, office building, commercial complexes, industrial estates, tourism complex buildings, recreational buildings, kiosks, bus shelters, water supply tanks, solid waste collectors, etc, thus demonstrating that cost effective technologies have equal levels of application from the weaker sections to high income housing as well as public buildings.

Experience has shown that buildings constructed through building centres interventions, have been 15 to 40 per cent cheaper than conventional and traditional methods, depending upon the combination of technology adopted in a specific application and materials used in the construction process.
The Building Centre Movement of India has brought in national, regional and international acclaim as an appropriate grassroots level intervention for technology transfer and housing delivery.

This movement has found acceptance as a model with all its potential for appropriate replication, adoption and adoption by various countries in various locations, depending upon the regional needs. The United Nations Centre for Human Settlements (Habitat) in a bid to acknowledge and appreciate the efforts of HUDCO, awarded in 1991 the Habitat Scroll of Honour to HUDCO "for innovation, development and promotion of building materials, design and construction, for affordable housing for the poor and training in construction skills".

Many developing countries in Asia and Africa have shown great interest and initiatives to replicate the Indian building centre model in their countries.

### 3.6 Extension and propagation

While taking stock of the initiatives of technology transfer through the Network of Building Centres and through the introduction in high-visibility public projects, the following additional areas require attention and consideration:

(a) **Propogation through the building technology exposition and housing guidance centre**

There is need for extending the results of research and development in building technologies to suite the needs of individual and group home builders, professionals, and others through the permanent "building technology exposition" and "housing guidance centre" in all state capitals. These should be similar to the one set up in the HUDCO southern zonal office at Madras. These should be open throughout the year for the general public to visit and familiarize with the technologies. Such permanent expositions should be put up by state housing agencies/HUDCO/BMTPC and other agencies on a continuing basis in all state capitals and over a period of time in all other cities/towns.

(b) **Upgrading educational curriculum of architectural and engineering courses**

The curriculum of the courses offered at architectural and engineering schools should be upgraded so as to train the students on innovative and appropriate technologies for housing constructions.

In addition, it is also desirable to give at least six months to one year practical training to students on actual field situations as part of the educational curriculum, before degree is awarded.

(c) **Standardization validity through the codes and standards**

Since most of the existing handbooks, manuals as well as codes and standards do not have coverage on most of the innovative building materials and technologies, speedy and time-bound action need to be taken for providing these technologies in these important regulatory documents. This is also linked with the countries standardization efforts for introduction of innovative technologies/materials/techniques of construction in Indian Code design and construction standards. Till such time, appropriate technology brochures/hand outs published by BMTPC/HUDCO/R & D/other agencies of central and state construction departments could be used as transitional and provisional standards.

(d) **R & D fund**

With a view to popularize various new technologies and also for building confidence among professionals, an R & D fund or risk fund to the extent of 1 to 2 per cent of the cost of the construction could be created so that in case of any damage, as a result of introduction of any new technology, the funds available in the R & D fund could compensate it. This is important because many practising professionals are unwilling to use some of the cost-effective technologies due to fear of later problems, which could affect their future career prospects. HUDCO's R & D support for various initiatives in this connection may be considered as a source of encouragement.

(e) **Dissemination through audio-visrals and other means**

It is necessary that new technologies are given appropriate projection using the media and audio-visual means. This would help give appropriate information on the right type of materials and technologies. Dissemination of information through media could be particularly helpful in small town and sub-urban areas where people have access to radio and TV.

(f) **Building material estates and markets**

With a view to encourage entrepreneurs to come forward for the manufacture of various low-cost building materials and technologies, State Governments may set up building material estates and also appropriate building material component sales outlet centres through the building material markets.

(g) **A special thrust for utilization of agricultural and industrial wastes**

With a view to encourage the building materials industry to utilize agricultural and industrial wastes as a 'waste to health' or 'refuse to resource' strategy, Government should come forward and give all possible incentives for such initiatives. These may include exemption of customs duty/excise duty as well as sales tax and other charges. Furthermore, the financial institutions should also support initiatives for using agro/industrial residues in the production of building materials through equity support loan, etc.

(h) **Recognition by housing finance institutions (HFI's)**

It is a common perception that large number of housing finance institutions (with the exception of HUDCO) do not encourage introduction of various cost-effective building materials and technologies for housing projects and as a result, loans are not given easily. It is necessary that a folio is made available to the HFI's, so that when they sanction individual loans, the same does not get held up due to introduction of these technologies. A special training programme recently organized by one of the HFI's has brought to focus the need for such a step.

### 4. CONCLUSION

There is an array of technology options available for various elements of building construction, leading to cost-effectiveness and at the same time not effecting the performance
characteristics expected from a decent house. It is desirable to have increased understanding of the various materials and technology options, its structural and functional characteristics and efficiencies and more importantly the methodologies for implementation. Series of follow-up measures to enable application of the same would need to be taken. These would cover work related to regulatory measures, organizational development needs and also technology transfer mechanisms evolved. This would play a major role in ensuring the adoption of appropriate and cost-effective technologies in housing and building construction scene, which is one of the vital inputs to make affordable and acceptable housing a reality for the vast majority of low-income people in the country.

A construction site in India, Courtesy HUDCO, India
HABITAT II

CONFERENCE CLOSES AS HABITAT AGENDA IS ADOPTED, UNCHS TO BE STRENGTHENED AS IMPLEMENTING AGENCY

The Habitat II Conference succeeded in all of its major goals of putting the problems of human settlements at the centre of the local, national and international agenda and sharing solutions aimed at improving life in human settlements. This was said by Habitat II Secretary-General Dr. Wally N'Dow.

Included in the process for the first time were representatives from cities, the private sector, other local authorities, grassroots organization and non-governmental organizations (NGOs), instead of just national governments. This bold move paid rich dividends in terms of generating enthusiasm and interest as well as enriching the understanding of all issues which were being addressed.

"This Conference recognized the changing global patterns of life, recognizing that solutions also must be found at the local level" ...... National governments and international agencies cannot solve nor pay the solutions to these massive urban problems" said Dr. Wally N'Dow.

"Habitat II has revolutionized how the United Nations will conduct future conferences," Dr. N'Dow said. "The United Nations and its conferences have grown beyond being a forum for just countries, and will from here on better reflect the dynamic cities and local organizations."

The burgeoning growth in global population, which will rise from today's 5.6 billion to some 8.5 billion by 2025, can only be sustained in cities. The Habitat II Conference recognized this new reality, that the Earth's rural areas cannot absorb an additional three billion people, because the land cannot support them without devastating environmental consequences.

Dr. N'Dow added that "the major theme of the Conference is that cities are the world's future and that they can be made liveable. A second theme is that half the world's people still live in rural areas, and the same improvements in the way people live can be applied to these areas as well."

The problems of human settlements are many - the world population is growing at the rate of a quarter of a million people daily. Currently, some 100 million human beings, most of them women and children, are homeless. Overall, at least 600 million people live in shelters that are life - or health - threatening in developing world cities.

"This Habitat conference, however, has demonstrated conclusively that all of this hardship is completely unnecessary, that the resources exist to put a roof over the head and bring safe water and sanitation, for less than $100 per person, to every man, woman and child on this planet." said Dr. N'Dow.

Dr. N'Dow emphasized that a major advance of the Conference was in its emphasis on the crucial role of women in the sustainable development of human settlements.

Women constitute 70 percent of the world's 1.3 billion absolute poor, and 50,000 women and their children die daily as a result of poor shelter, water or sanitation. "But thousands of women have come to Istanbul, many from the grassroots level, to seek deeper commitments from the international community to change the conditions that keep the majority of women powerless and poor". ..... "We have kept this commitment. The primary role of women in human settlements has been strongly recognized by this Conference".

"The empowerment of women and their full and equal participation in political, social and economic life, the improvement of health, and the eradication of poverty are essential to achieving sustainable human settlements", says the final Habitat document.

Dr. N'Dow added that the delegates bridged differences during the final work on the "Habitat Agenda: Goals and Principles, Commitments and Global Plan of Action," and that this itself was a sign of the vitality of the United Nations system.

"Anyone who believes that our global conferences consist of dry debate with the outcome preordained did not sit in on any of the spirited discussions that went on during Habitat II".

The primary disputes arose over the definition of the "right to housing," the question of whether developed countries should greatly increase aid to developing ones to improve shelter, and women's reproductive rights. Recognition of the right to...
housing was framed as follows: "We agree to take all steps necessary for the progressive realization of the right to adequate housing." Issues that are part of the Habitat Agenda but not core issues have been defined in relation to spiritual and cultural values.

"We have resolved most of these questions, through vigorous debate and consensus," said Dr. N'Dow. "A major reason why debate was so spirited was because of the fresh infusion of voices into this UN conference, from city and other local officials, NGOs and grassroots organizations."

"The Global Plan of Action" puts the primary responsibility on countries for carrying out the Habitat programme, but cities are also given a central role. In terms of post-Conferences follow-up, there was unanimous endorsement of UNCHS (Habitat) as the focal point for the implementation of the Habitat Agenda within the United Nations system. Implementation of the Habitat Agenda will fall within the sovereign rights of Member States.

"The Habitat Agenda is a global call to action at all levels," the final document says. It offers, within a framework of goals and principals and commitments, a positive vision of sustainable human settlements - where all have adequate shelter, a healthy and safe environment, basic services, and productive and freely chosen employment. The Habitat Agenda will guide all efforts to turn this vision into a reality."

Note: Text taken from a press release produced in Istanbul.

The Habitat Agenda
Goals and Principles, Commitments and
Global Plan of Action
MEETING OF THE MINISTERS IN CHARGE OF HABITAT AND URBAN DEVELOPMENT OF THE CENTRAL AFRICAN SUBREGION: NAMIBIA, COMOROS AND DJIBOUTI HELD IN BRAZAVILLE, CONGO, 10 - 12 APRIL 1995

THE BRAZAVILLE DECLARATION

Bearing in mind the African Ministers declaration adopted in Nairobi on March 30, 1994, relating to the preparation of the second United Nations Conference on Human settlements (Habitat II) - "the City Summit" which will take place in Istanbul in June 1996.

Bearing also in mind the decision of the Preparatory Committee of Habitat II Conference at its first substantive session held in Geneva, from 11 to 22 April, 1994.


AWARE of the cities driving role in the subregion economic, political, social and cultural development, as well as the complementary relationship existing between cities and the rural world.

Taking into account the situation of Human Settlements in Africa and mainly in the subregion, which is characterized by an intensive urban crisis and a continuous deterioration of the living conditions of the poorest, due mainly to:

- The high demographic increase rate with an ever increasing urbanization, which makes it imperative to better manage the urban development.
- The deterioration of the general conditions of habitat and urban environment which will come to an end with the supply of services and the setting-up of appropriate infrastructures for water supply, electricity, telephone, solid-wastes management, sanitation and public transportation.
- The weakness of interventions in the area of urban development and land policies which causes a chronic shortage of adequate housing and affordable for low-income people.
- The disregard of many non-official land production channels and the complexity of official procedures which perpetuates precarious situations and under-equipment.
- The importance of political and social crises and natural disasters, which particularly affect human settlements and the need to undertake preventive actions for reconstruction and development in favour of stricken communities.

Events

1. Adopt and implement facilitator, participative and innovative policies in the area of urban development, land and urban management and habitat, in order to reach Habitat II targets, which are:
   - an adequate housing for all
   - a sustainable development of human settlements in an urbanizing world
2. Define and implement programmes aiming at preserving environment, improving infrastructure and basic services, as well as reducing urban poverty, which are three closely linked parameters.
3. Closely collaborate with municipalities and favour decentralization in order to improve the technical and financial management of towns and their effectiveness in the promotion of social and economic development.
4. Favour the emergence of dynamic municipal land policies including the setting up of land reserves, which can be made possible by a greater autonomy granted to municipalities in the management of their financial resources and the financing of their urbanization through a contractual basis in their relationships with the Government, the possibility to have access to credit and promote an appropriate tax system. The Government should therefore strengthen its capabilities to control the legality of municipal actions and look after the respect of basic national social balances.
5. Revise, should the occasion arise, the legal and regulation framework and land management which is at the root of the human settlements development, by acknowledging the various land production channels, allowing the various tenure status, trying to rationalize them and carrying out policies of land regularization so as to favour access to land, mainly for poor people.
6. Encourage and develop actions and strategies at the neighbourhood level, mainly through non-governmental organizations and basic communities, which makes it possible to improve the living environment and reduce urban poverty.
7. Look after the development of national urban network, which is essential for the development of the rural world.
particularly thanks to adequate investments in secondary cities and communication infrastructures.

8.  Strengthen the role of women in the development of human settlements by making land, resources and decision-making processes fairly accessible to them.

9.  Mobilize youth in creating better conditions for their access to education and favouring their participation in urban management and decision-making process.

10. Promote the setting up and the implementation of innovative, appropriate and facilitatory financing machineries of credit for poor people, taking into account their informal undertakings both in urban and rural areas.

11. Develop channels of production, diffusion and supply for locally-produced materials in order to lower building costs, favour job opportunities and save foreign currencies. Should the occasion arise, amend building codes and regulations in order to make their use possible.

12. Define preventive strategies for natural and man-made disasters, resolution of the massive and lasting refugee problems and victims of disasters, for the control of urban violence, which can be made possible by way of a broader political stability in the region and the promotion of the harmonious and fair relationships between social groups.

13. Actively participate in preparing Habitat II by way of carrying out a broader possible national consultation with the different actors of human settlements: Governmental and non-governmental organizations and institutions, private sector, basic communities, research workers and scholars.

14. Prepare before December 1, 1995 National Plans of Action answering the main problems of people living in towns and villages as stressed by various actors, specifically:
   - the gathering of urban sector and housing indicators as defined by the United Nations Centre for Human Settlements;
   - the analysis of current policies and their effectiveness;
   - the selection of some model policies or successful actions, for a national and international publicity;
   - the setting up of a priority programme of actions for the period 1996 - 2000.

15. Appeal to multilateral and bilateral organizations in order for them to support the countries of the subregion in their preparatory works of Habitat II Conference.

**AFRICAN REGIONAL MINISTERIAL MEETING IN PREPARATION FOR THE SECOND UNITED NATIONS CONFERENCE ON HUMAN SETTLEMENTS (HABITAT II), JOHANNESBURG, SOUTH AFRICA, 16 - 18 OCTOBER 1995**

**Executive Summary of Johannesburg Declaration on the African Common Position for the Habitat II Adopted by the African Ministers**

Ministers in charge of Human Settlements in all the countries of the African Region met in Johannesburg, South Africa from 16 to 18 October 1995 to consolidate a strategy for effective African participation in, and to support, the implementation of the two themes of the Habitat Agenda: adequate shelter for all and sustainable human settlements development in an urbanizing world.

The Declaration produced is a statement of shared vision and commitment to dedicate common resources for implementing the Habitat Agenda in Africa.

While acknowledging the need for worldwide focus on human settlements issues, the Ministers placed special emphasis on an African perspective, stressing financial resources mobilization, resolution of conflicts, land issues, rural-urban development balance, urban poverty and the deteriorating urban environment as key issues.

African policies must address both urban and rural needs, provide infrastructure in rural areas, and encourage private sector involvement through direct incentives to invest in rural areas.

The African region is plagued by the problem of persistent massive refugees and displaced persons as a result of natural and man-made disasters. Solutions must be implemented which conform root causes of such displacement as well as environmental degradation and civil violence. In particular, the urgent situations in Rwanda, Burundi, Liberia and Sierra Leone must be recognized by the international community.

Sustainable human settlements require appropriate and environmentally-sound land-use planning. Such planning must recognize the continuum of rural regions, cities and towns and must take into account the potentially dire ramifications of the expansion of cities which depletes already stressed water, land and energy resources and threatens cultural and geological monuments.

As the engines that drive economic development, cities require efficient infrastructure and services including energy, waste disposal, transport and communication. Increasingly, local authorities must be given greater power and fiscal responsibility for providing such services. Public and private partnerships must be encouraged to generate new resources and to involve popular participation in municipal decision-making.

Sustainable human settlements are achievable only through popular participation and civic education. Legislative reform must be enacted which encourages and expands participation of the private sector, local authorities and non-governmental organizations.
To ensure civic participation at all levels, priority must be given to the issue of land-tenure reform and security of tenure, to guarantee equitable access to land by all citizens, especially the poor, disadvantaged and women.

Fiscal reform must be implemented. Innovative financial mechanisms must be created to ensure access to finance, including mobilization of pension and insurance funds and bonds. These new mechanisms, while allowing citizens access to finance, must also include global measures such as debt reduction or cancellation.

National economies must be stimulated to attract private investment, generate employment, increase revenues and provide a strong economic base. To this end, we urge the creation of an International Fund to elicit contributions from countries and international institutions, directed at addressing the human settlements problems in Africa.

Human capital is critical for the effective functioning of an economy. We must invest in basic education and vocational training while addressing the root causes of poverty, with special emphasis on female-headed households. Women play a critical role in the human settlements agenda and must be guaranteed full rights, including the right to inheritance and ownership of land, property and security of tenure.

The special needs of the elderly, the disabled and youth must be recognized. Millions of children in the African region live in dire circumstances. Such children, as our most vulnerable citizens, must be provided with special protection and assistance.

Our urban citizens continue to be victims of crime and violence. Neighbourhood-based crime prevention and conflict resolution programmes must be implemented to offer protection and to build united communities.

To further strengthen community involvement, production of building materials must be localized. Reform of building technologies, codes and regulations is required to reduce costs, provide employment and new opportunities for shelter.

To ensure that these critical issues are addressed and solutions developed, regional organizations must cooperate with UNCHS (Habitat) to implement the Habitat Agenda in Africa. We urge such organizations, member states and all relevant partners to attend to the Third Substantive Session of the Preparatory Committee in New York and the UN Conference on Human Settlements in Istanbul in June 1996.

Our commitment to the human settlements agenda must go beyond the Habitat II Conference. The General Assembly should recognize Habitat as an agency to coordinate the implementation and follow-up of the Global Plan of Action and should provide additional resources for this mandate. We pledge our continued involvement in implementing the human settlements agenda and will meet annually to monitor our progress.

PRIVATE SECTOR ROUND-TABLE, 16 TO 18 OCTOBER 1995, JOHANNESBURG, SOUTH AFRICA

About 100 African private-sector representatives attended a round-table meeting which was held during the Regional Ministerial Meeting for Africa on preparation for the second United Nations Conference on Human Settlements (Habitat II) in Johannesburg.

The private-sector representative called on their governments to establish and pursue, as a matter of policy, the partnership between the public and private sectors with a view to achieving rapidly the goals of adequate shelter for all and sustainable human settlements development in Africa.

In a joint Declaration, the private-sector representatives recommended to the Ministerial Meeting the need for African governments to recognize shelter provision and the human settlements sector as "major engines for economic growth" and "to undertake necessary land reforms and land market decentralization in order to facilitate private-sector investment in housing and related infrastructure development". The Declaration also called for, among other things, the establishment of national forums involving the private sector and all Ministries concerned to "facilitate an effective partnership in response to the challenges of providing adequate shelter for all and sustainable human settlement development".

This declaration is the first step forward in the evolution of a private-sector partnership with governments to implement the Global Plan of Action - the blueprint for sustainable human settlements development that will emerge out of the Habitat II Conference next June - and to help develop a strategic agenda for delivery of affordable housing in Africa.

Dr. Wally N'Dow, the Secretary-General of Habitat II, who is determined to make partnership between the public and private sectors a key principle in the Habitat II Global Plan of Action, said that "partnership between governments and the private sector would be profitable for both sectors in the long run. Private-sector investment in housing and infrastructure, particularly in cities, is a sure win-win situation in the struggle for economic growth and development".

Dr. Wally N'Dow explained: "Such a partnership, for the accelerated development of human settlements and infrastructure in Africa, has several advantages, both in the short- and long-run. In the short-run, it has a great potential of changing, in a positive way, the supply of adequate and affordable shelter in many countries. It can introduce economies of scale and efficiencies in the supply side to meet changing patterns of demand. In the long-term, infrastructure development can also increasingly become a function of the private sector, leading progressively to a culture of meaningful cost recovery in this sector. This ... is a necessary ingredient in the efficient provision of infrastructural services, especially if such services are to be financed by private capital, from whatever source. Experience has shown us that Governments are not usually well-placed to implement cost-recovery measures as they are often constrained by consideration of political and social expediency."
The Secretary-General of Habitat II urged the African private-sector representatives to consult with their governments on how best to participate in the Habitat II Conference and encourage them to take part in the Istanbul Trade Fair on Good Ideas for Better Cities which will take place parallel to the Habitat II Conference in Istanbul.

This private-sector roundtable was coordinated by Shelter-Afrique on behalf of the United Nations Centre for Human Settlements (Habitat), the United Nations Economic Commission for Africa (ECA), the Organization of African Unity (OAU) and the Republic of South Africa, the host country. Participants at this Roundtable included housing developers, financial experts, brokers, contractors and researchers.

THIRD PREPARATORY COMMITTEE SESSION
FOR THE UNITED NATIONS CONFERENCE ON HUMAN SETTLEMENTS (HABITAT II), NEW YORK, 5 TO 16 FEBRUARY 1996

The third and the last Preparatory Committee of Habitat II Conference succeeded in endorsing, conditionally, major portions of a proposed statement of principles and commitments as well as the global plan of action to be submitted to the conference in June 1996.

The Preparatory Committee noted that, due to time constraints, portions of the final document would be submitted to the conference as having been informally negotiated during the preparatory process, but not formally approved.

The proposed final document, "The Habitat Agenda", is intended as a global call to action at all levels and a guide towards the achievement of the sustainable development of the world's cities, towns and villages into the first two decades of the next century.

Following extended negotiations during the session, a number of issues remained unresolved in the proposed text, including the right to adequate housing, an institutional arrangement for follow-up to the plan of action and financial resources needed for implementation.

One area of progress during the third session, as reflected in the proposed text, concerned the idea of partnerships, which would be based on the willingness of national governments to work with local authorities on the Agenda. All partners would be encouraged to work with non-governmental organizations and the private sector.

Dr. Wally N'Dow, Secretary-General of the Conference, in a closing statement, said that the negotiations over the Agenda, "have been long and hard, but we leave here with many brackets of issues and phraseology that have, thus far, defied our most intense efforts". He expressed confidence that, in spite of the difficulties, the negotiating process now under way in Habitat Preparatory Committee would succeed, and when it was over, ..."and that may not be until Istanbul itself ... we will have a Global Plan of Action that reflects a global consensus".

He went on to say that enormous progress had been made in the evaluation and understanding of the notion of the right to housing. Gains had also been made in agreement on the affirmative obligations of government to help make housing habitable, affordable and accessible. He stressed that partnership had become a compelling theme for the Conference.

Noting that some 1,200 non-governmental representatives from nearly 400 organizations had been part of the committee's third session, Dr. Wally N'Dow highlighted the important role played in the preparatory process by women's groups and by young people. He stressed that there would be no retreat in Istanbul from the commitments made in Beijing, Cairo, Rio and at other world conferences.

According to the Chairman of the Preparatory Committee, Mr. Martti Lujanen (Finland), the unresolved issues would be the subject of informal negotiations in the period leading up to Istanbul, and would be taken up again formally during pre-Conference consultations. In closing the session, he stated that the question of what was meant by good or sustainable development was, in essence, political. The Istanbul Conference would have to decide on the development paradigm for the towns and cities in the next century.

Addressing the closing of the session, Mr. James Gustave Speth, Administrator of the United Nations Development Programme (UNDP), welcomed the progress made by the Preparatory Committee. He said that Habitat II provided an unparalleled opportunity to integrate a range of goals related to such issues as sustainable development, human rights, social development, and population control. The success of the entire continuum of world conferences, including Habitat II, would depend on whether the words were translated into action and on what efforts were made to follow-up on the conferences.

The UNDP had produced a document on the United Nations integrated approach to follow-up to the World Conferences, he continued. That document, detailed how the World Bank, the UNDP and the other United Nations agencies were working together on the follow-up to those conferences. The UNDP awaited the Habitat II results, so that it could be integrated into that approach.

Also during its third session, the Preparatory Committee approved the list of non-governmental organizations and local authorities recommended for accreditation of the Conference, as well as the provisional agenda for the Conference and the report of the Committee on the session.

This Global Report on an Urbanizing World assesses conditions and trends in the world's human settlements - cities, towns and villages. The growth in urban poverty has been one of the most noticeable trends during the 1980s and early 1990s. Another has been the limited achievements of governments and international agencies in improving housing and living conditions, including expanding the provision of safe and sufficient water supplies and adequate sanitation and drainage. Recent estimates as to the scale of the health burden suffered by those living in poor quality housing also highlight how little progress has been made.

However, while global achievements in improving housing and living conditions have been limited, there are also many examples in the Global Report of success. Certain national or city governments have greatly increased the proportion of their population with piped water and good sanitation. Many government agencies and non-governmental organizations have worked with low income groups and their community based organizations to greatly improve housing conditions and basic services (water, sanitation, drainage, health care and garbage removal) at low cost.

There are new models for housing finance that can allow low-income households to acquire better quality housing and still achieve high levels of cost recovery. Perhaps most fundamentally, there are new examples of city authorities that are more democratic, accountable and responsive to the needs and priorities of their citizens. These emphasise how much good governance matters. Within low-income countries or cities, good governance can greatly improve housing and living conditions which in turn can produce a 10 to 15 year increase in average life expectancies, without compromising good economic performance through excessive public expenditure. Within higher income countries, good governance can reduce poverty and deprivation and also the problems so often associated with contemporary urban living - high levels of homelessness, crime and violence, and the concentration of the unemployed and unskilled in declining city centres or other districts.

Below are the key issues and messages of this Report under six headings:

- **Urban trends**
  1. Contrary to most predictions, population growth rates slowed for many cities in the South
  2. The world is less dominated by mega-cities than predicted
  3. The links between urban change and economic, social, and political change

- **The limited social achievements**
  1. Rising poverty level
  2. Long-term social trends

- **Housing conditions and trends**
  1. Poverty and housing conditions
  2. The enormous health burden of poor quality housing
  3. Poverty and insecure tenure
  4. The growing number of homeless people
  5. Governments as enablers, not providers

- **Governance**
  1. The new institutional frameworks for urban authorities

**An Urbanizing World**


United Nations Centre for Human Settlements (HABITAT)
2. Enhancing the role of citizen groups, community organizations, and NGOs

- **Towards sustainable development**
  1. From environment protection to sustainable development
  2. The social components of sustainable development
  3. New approaches to planning


**Shelter provision and employment generation**

This publication is a collaborative effort of two United Nations agencies, the United Nations Centre for Human Settlements (Habitat) and the International Labour Office, joining their policy research and technical cooperation experiences to illustrate the dynamic linkages between shelter and employment. Shelter provision brings together issues that are at the heart of the 1995 World Summit for social integration. It is for this reason that this publication is not only a key input of both agencies into the Social Summit, but more importantly will help put into practice the many recommendations in the fields of poverty alleviation and employment generation that are expected to come out of the Summit.

Shelter is much broader than housing. Investments in shelter not only improve and expand the available stock of housing units, but furthermore improve both the working and living environment. The shelter strategies analyzed here can help reduce poverty while at the same time generating new employment opportunities for the poorest population groups. However, in addition to expanding the quantity of employment opportunities, shelter provision can also improve the quality of employment, particularly for those working in the urban informal sector, where the home and the workplace are often combined.

This publication has been produced as a follow-up to a recommendation made by the fourteenth session of the Commission on Human Settlements calling upon UNCHS (Habitat) and ILO to intensify cooperation in coordinating their research and operational activities on employment-generation and labour-intensive programmes. It also links UNCHS (Habitat)'s goals for adequate shelter with the ILO's goal of promoting full employment and improved working conditions.

The main premise of this joint publication is that investment in shelter are productive investments, rather than consumption expenditure. Investments in shelter generate income, and increase the labour productivity of the occupants. This has one major implication for development policies: It implies that shelter provision is not only a goal but, more importantly, it is a tool of development policy. Any investments in housing, infrastructure or services have effects on the national income that go far beyond the direct investment itself. Shelter provision triggers additional investments - and employment - in building-materials production, transport and marketing. This additional employment in turn leads to higher demand for a variety of local goods and services - mainly by semi-skilled and unskilled workers with little propensity of buying imported goods - and thus increased employment in the production of such goods as well.

In addition, low-cost housing and basic infrastructure and services such as drainage, access roads and solid-waste management generate more jobs per unit of investments than high-cost housing and primary infrastructure since they are more suitable to labour-intensive methods. The involvement of small-scale informal construction enterprises - and indeed local communities - in the execution of housing and infrastructure projects should therefore be supported, as they use more unskilled labour, fewer imports and less hard currency than their large-scale, formal-sector counterparts. There is thus an urgent need to facilitate the activities of the informal sector in shelter provisions, which includes increasing its productivity and its ability to adhere to acceptable health, safety and labour standards.

The interagency collaboration which this publication represents is just one facet of the rapidly growing partnership between the United Nations Centre for Human Settlements (Habitat) and the International Labour Office. Other elements of this collaboration include the umbrella Urban Poverty Partnership Programme which, through a series of hands-on demonstration activities in collaboration with low-income communities, will help put many of this book's findings into practice. The Urban Poverty Partnership's "Seeing is Believing" approach usefully complements the findings of this publication. Likewise, the ILO within its mandate is supporting UNCHS (Habitat) as it prepares for the Second United Nations Conference on Human Settlements (Habitat) II in 1996, with a view to turning cities of despair, faced with growing unemployment and homelessness, into cities of hope.
The human settlements conditions of the world's urban poor

More than one billion people are currently living in absolute poverty, with incomes too low to meet their daily requirements in terms of food, clothing and other basic needs. A similar, or even larger number of people do not have access to safe and healthy shelter. The latter half of the twentieth century has seen the continuous transfer of the world's population into urban areas. In 1950, less than 30 per cent of the world's population was urban. By 1995 this figure has increased to 45 per cent. Within the next ten years, more than every second human being will live in cities and towns.

We are, however, not only living in an urbanizing world. We are also living in a period which can best be described as the age of the 'urbanization of poverty'. By 1985 some 330 million urban dwellers in developing countries had incomes so low that they were characterized as living in absolute poverty. Ten years later, in 1995, the figure is estimated at 430 million. At the same time, more than 600 million urban residents in developing countries live in health-threatening houses and conditions characterized by lack of basic services such as piped water, sanitation and health care.

There is a considerable regional variation to this general picture. While three quarters of the poor in Latin America and the Caribbean, and in North Africa and the Middle East, live in urban areas, a similar proportion of the poor live in rural areas in sub-Saharan Africa. The trend, however, is general. Rapid urban growth in all regions is accompanied by a relative (and in most cases also an absolute) increase in the number of urban poor. The explosive growth of informal settlements in many sub-Saharan African cities is a visible manifestation of this.

There are many reasons for the increasing 'income poverty' and 'housing poverty' in urban areas. One of these is the process of urbanization itself. When this occurs at a time of worldwide economic recession - and as we are increasingly realizing that present policies for human settlements development fail to cater for the special circumstances of the groups affected by extreme poverty - it is not surprising that a large proportion of the 65 million people that are added to the urban populations of developing countries each year end up unemployed or underemployed, living in very poor shelter conditions.

It is against this reality that the fourteenth session of the United Nations Commission on Human Settlements requested the United Nations Centre for Human Settlements (Habitat) to report to the second United Nations Conference on Human Settlements (Habitat II) on the human settlements conditions of the world's urban poor. This publication has been prepared in response to that request to present recommendations on how to address the shelter problem of the poorest groups within the context of enabling shelter strategies.

The dual problems of urban poverty and inadequate human settlements conditions in developing countries constitute two of the most fundamental challenges to politicians and policy-makers throughout the world. The growth of the informal sector is a symptom of the inability of the formal sector to absorb the labour potential of an increasing number of urban dwellers. Yet, the informal sector is also the most important arena for shelter provision, and in many cases the only arena open to the urban poor.

The Global Strategy for Shelter to the Year 200 calls for the introduction of enabling shelter strategies which implies a change from policies of government intervention to policies of enablement. Yet, as is acknowledged in the GSS, this process of liberalization embodies certain dangers to the urban poor. Increased demand for land and housing is accompanied by increased 'commercialization' of these markets. As choice is a positive function of income, many among the poor may end up with no choice at all. Thus, although liberalization is a necessary condition for the success of the GSS, it is by no means a sufficient one.

This is not an argument for abandoning the enabling approach. Yet, if we are to improve the human settlements conditions of the poorest groups it means going beyond enabling shelter strategies. Enabling shelter strategies does not imply that the public sector should withdraw from shelter provision completely. In fact, it is only by enabling the "not-so-poor" to help themselves, that governments can make resources available for direct assistance to the poorest groups.
Multilingual glossary of human settlements terms

A provisional glossary of terms relating to Habitat was issued by the Documentation and Terminology Service of the United Nations Secretariat in May 1976, primarily for use by the translation and interpretation teams at Habitat: United Nations Conference on Human Settlements, which was held at Vancouver, Canada, from 31 May to 11 June in that year. That glossary, issued in Arabic, English and French, provided a list of 650 terms in those languages.

In the 15 years since the Vancouver Conference, the need has arisen for a more complete glossary of terms, and this publication is an attempt to address that need. It does not pretend to cover the whole range of human settlement terminology: that could only be done by publication running into several hundred pages and several volumes.

What makes this glossary different from any predecessor is the inclusion of a definition for each term. This feature should help users to avoid the trap of selecting an inappropriate usage when two or more words or phrases in one language may translate a single word or phrase in another, a trap that could involve misunderstanding, disagreement or embarrassment.