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Problems of human settlements – their size, form and quality

Addressing a joint meeting in London, England, on April 11, of the Royal Commonwealth Society and the Human Ecology Council, Canada's Minister of State for Urban Affairs, Barney Danson, observed that the Commonwealth had "proved that effective relationships founded on very broadly defined goals can be lasting" and that it was "a model for others to follow" at a time when the world was "in need of models of this kind". He mentioned as among the critical issues that would affect mankind during the balance of the present century "the population explosion, the food problem, energy supply and distribution, resource limits, environmental pollution", all of which had already been the subjects of "special and urgent meetings over the past few years – meetings within nations, meetings at the regional level in Europe, the Americas, Asia and Africa, and meetings at the global level through the United Nations". He discerned "one critical issue that provides a link between all of these and a vital (if partial) key to their resolution" – the issue of "human settlements", their "shape and form and quality...but, most especially, the accelerating rate of urbanization and the concentration of population into a small number of very large metropolitan and megalopolitan regions".

A major effort to deal with the problems of human settlements, Mr. Danson pointed out, would be the "Habitat" conference scheduled to be held in Vancouver in June 1976. His discussion follows of the aspects of these problems that would be studied and debated at Vancouver, and of the results that were hoped for from this conference:

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At "Habitat" the nations of the world will consider and, we hope, adopt and undertake a wide range of needed international and national actions on the global problems of human settlements. This is urgently required. The changes occurring in our cities and towns and throughout our rural areas are happening at such a rate that we often don't perceive their aggregate effect; within only 25 years the terms of reference and, in many ways, the character and prospects of the human community will have changed fundamentally. Man will be living for the first time on a predominantly urban planet. If our demographic projections prove correct, three-and-a-half billion of the world's citizens – out of a likely six-and-a-half billion – will be in settlements of more than 20,000 people by the turn of the century. These settlements will be growing at twice the general rate of population growth. The cities of over two to three million may well be grow-

ing twice as fast again. The dimensions of such growth are astounding. It means building as much man-made environment in 25 years as we have in the entire history of man.

Rich, developed countries in North America and Europe may be able to cope with a doubling of their urban environment in 25 years. We probably have, in fact, the resources, financial and technical, to transform this rapid change into an unparalleled opportunity – an opportunity to create communities that are more conserving of energy and other resources, that are more harmonious with the natural environment, that are more human in scale and thus more livable. If we are to transform this from a crisis to an opportunity, however, we must institute measures that will enable us to manage this growth and change. Canada and other developed countries will need to develop and apply a whole range of new approaches in urban policy and

institutions as much as in urban technology.

Special problems of developing nations But what of the developing world? The vast majority of mankind's new settlements will not be in the rich, settled societies. They will be in poorer, still-developing lands, where the resources necessary to deal with growth are tragically inadequate. When their urbanization trends are seen in the context of their population problem, their poverty, their food and energy problems, they assume the proportions of an exploding crisis. In the cities of the developing world the old environmental evils of poor water, absence of sewage and spreading slums are coupled with modern evils of smog and fumes and chemical pollution. These cities, spreading and deteriorating over another two decades, offer us the tragic prospect of providing the very worst environment in which human beings have ever been reared.

This is a crisis from which we in the rich, developed world cannot escape. Our Prime Minister, Mr. Trudeau, referred to this recently on March 13, in a speech at the Mansion House. Referring to the old protective barriers between nations, he said: "Today those barriers are gone. There are no bulwarks behind which we can retreat in order to stave off or avoid calamity from abroad. And, if there are any who believe otherwise, they are fools. Nations that are told that they can exist and flourish independent of the world are being misinformed. We are on this earth. Each has the power to injure all others. Each of us must assume the responsibility that that implies." In this crisis, the developed world has no choice but to respond. The question is not whether but how quickly. Given these trends, and the needs they imply, it should not be surprising that the United Nations — at two meetings of the General Assembly since Stockholm — has stated that the environment problem of greatest concern to most of the nations and most of the peoples of the world is the environment of their cities and towns and villages, of their dwellings and work places — in other words, of man's own "Habitat".

Better design, wiser management Work that was done for Stockholm, and since Stockholm, has demonstrated

clearly that the key to the problem of resource-conservation — and also the key to the problem of overloading the natural environment with waste — will have to be found largely in the better design and wiser management of our human settlements. Monitoring our atmosphere and oceans, our fish and wildlife, will tell us how rapidly we are degrading our environment. In order to stop degrading our environment, however (as you have demonstrated so dramatically here in London and with the River Thames), we must attack the sources of the wastes. Increasingly, these are to be found in the economic activity and life-style of our settlements. The same is true of energy consumption, resource conservation and even food-supply. Let us use energy and resources as an example. We in Canada — and most countries of the developed world — have designed our cities and towns on the assumption that the energy and other resources needed to sustain them are and will remain unlimited in quantity and cheap in price. Look at our recent urban systems: isolated rather than community heating systems, high-rise towers sealed, air-conditioned, with complex vertical transportation systems — our urban systems are highly consumptive of energy and other resources and they generate an increasing volume of waste that imposes an intolerable burden on the land and on our common atmosphere and oceans.

We don't need to continue to build such systems. With present technology, we can design urban systems that are far less wasteful of energy and resources without reducing either our standard of living or the amenities that we enjoy. We can also significantly reduce the social problems and the alienation that are increasingly characteristic of our societies. In short, we can find a new synthesis between man's continuing desire for betterment and the constraints of a finite world with finite resources.

* * * *

Lessons of Western Europe

Western Europe — and especially you in Britain — has pioneered many of the more successful approaches to urbanization. Your regional-planning and development policies, your new towns, your public transportation, are examples of this. During the past week I

have been discussing these and other approaches with European ministers and officials, and I have seen examples of where and how they have been applied. I have been impressed both by the similarity of our problems and by the relevance to Canada of so many of the approaches that have been tried.

This is of immediate interest to us in Canada. We are in the process of re-examining Canadian urban trends and the types of policies and programs needed to shape these trends.

Perilous distribution of urban growth Our urbanization trends are not too different from those of Western Europe, the U.S.A. and other developed countries. In brief, we face a period of extremely rapid urbanization, perhaps a doubling of our total urban environment in less than 25 years. We are disturbed by this projected pace of urbanization because we feel that it could overwhelm the capacity of our institutions to plan for it and absorb it in a manner that would produce a livable and high-quality urban environment. We are perhaps even more disturbed by the projected distribution of this urban growth. If the trends are allowed to unfold, Canada faces a future that is not only predominantly urban but also one in which the overwhelming majority of Canadians will be concentrated in a small number of very large urban regions. Indeed, by the turn of the century two-thirds of our total population will be living in just three provinces: Ontario, Alberta and British Columbia; and three-quarters of that two-thirds — or roughly half of all Canadians — will be living in the Montreal-, Toronto- and Vancouver-centred regions.

If allowed to unfold, these trends will have an immense impact not only on these provinces and cities but also on all the others. Our largest, most rapidly growing cities will become unmanageable; the others, continuing to lose population, will wither, regional economic disparities will be accentuated and political power will shift, perhaps to quasi city-states, but most certainly to the dominant provinces, to an even greater extent than today.

The Government of Canada, the governments of all our provinces and most of our cities, have agreed that these trends are unacceptable. We have also agreed that we must co-operate in the development and application of policies

Silage to supersede hay crop

If initial expectations of a research project being conducted by Agriculture Canada's Animal Research Institute materialize, the sound of tractors droning round fields under cloudy, moisture-laden skies will become common.

Dr. Raymond Lessard, a nutritionist and forage-conservation specialist, foresees the day when haying, as a means of providing livestock with winter feed, will be little used on large farms. Silage, in its many forms, will supersede the hay crop as research continues, he says, with the aim of providing low-cost feed with high-protein content, regardless of weather conditions.

Tower silos are commonly used for storing forage, but they have had their shortcomings. The main one is that the forage must be wilted — containing not more than 70 percent moisture — when it is stored because a higher water content causes not only an evil-smelling and less nutritious feed, but also corrodes the concrete walls of the silo.

The Agriculture Canada project involves studying horizontal — or bunker — silos, which although not “particularly new”, Dr. Lessard says, “no one has really studied them to determine their value to the farmer”.

In addition to the six existing tower silos — each of which measures 30 feet in diameter and 80 feet in height — at Agriculture Canada's Farm in Ottawa, two concrete bunker silos have recently been constructed.

Each measures 130 feet long, 35 feet wide and 16 feet high, and is built entirely of concrete with easily replaceable sections in the event of corrosion. Each has a capacity for 500 tons of dry matter — the equivalent of the yield from two harvests from 125 acres of pure-stand alfalfa.

The bunker silos are being filled with corn silage, at 70 percent moisture, and tests will continue through the winter to determine the condition of the silage and the extent of nutrient losses.

The corn silage in one bunker silo is being compacted with a tractor, while that in the second is being left to settle and compact naturally. Tests have already shown that 20 percent more silage will be contained in the packed silo.



Agriculture Canada employees filling the two new concrete horizontal silos

on the Dominion Experimental Farm, Ottawa.

A third silo, a tower, has been filled with corn silage, and similar studies will be conducted on that feed for comparison purposes.

“The main advantage of the bunker silos, in addition to lower construction costs, is that the moisture content of the forage can be quite high — as much as 80 to 85 per cent,” says Dr. Lessard. “This means that forage can be harvested and blown straight into the silo.”

“There's no delay. The farmer will not have to wait for the wilting process to reduce the moisture content.

“In addition, the farmer will need less manpower during harvest time, which is itself greatly reduced. The weather doesn't affect the operation either. As long as it isn't raining too hard, the forage can be cut and immediately stored.”

The problem with haying and conventional forage harvesting is the delay caused by the need for a lower moisture content. In addition, valuable nutrients can be lost from a forage crop — including hay — by leaching during rainfall when it's lying in the field.

International data transmission

Although a person can speak by telephone to another person in almost any country, sending data on telephone lines at high speed across national boundaries still has some shortcomings. Among those examining such possibilities is Dr. Paul Wittke of Queen's University electrical engineering department.

Using Queen's computing centre, Dr. Wittke has recorded test signals over telephone lines between Kingston, Ontario and major centres across Canada to see how well the transmission process works.

Distortions, fluctuations or breaks in lines between two people in conversation are often unnoticed and insignificant, but if such events occur during the transmission of technical data travelling at 9,600 units a second, for example, the result can be disastrous, according to Dr. Wittke.

Professor Wittke is working under a \$48,000-contract with ESE Limited of Toronto, which in turn has another

contract with the federal Department of Supply and Services. The work is sponsored by the Department of Communications.

Sophisticated equipment is required to transmit high speed messages, Dr. Wittke said, and in future it may be possible to operate computerized banking procedures or check credit ratings in a matter of seconds from any point on the map.

Blocking such an eventuality, however, are the diversities of world telephone systems, and the political tangles which result when attempts are made to unify them, Dr. Wittke said.

Dr. Wittke became aware of these problems in December when he was among the Canadian delegates to meetings in Geneva of the International Telecommunications Union (ITU).

Recommendations from Dr. Wittke's research will be presented next month to the International Telegraph and Telephone Consultative Committee of the ITU, and from there they may be taken to the plenary assembly of the ITU in 1976.

Library service for the handicapped

Several Canadian libraries are now serving the handicapped. In the province of Quebec, the Institut Nazareth, Montreal, offers a braille and audio book service for blind users. The Institut Louis-Braille, in Longueuil, publishes books in braille and provides a library service to the blind and physically handicapped. In Ontario, the University of Ottawa library has a sizable audio book collection and has also begun to produce books in braille. Trent University has launched an audio book program, and the Metropolitan Toronto Library Board plans to introduce a Metro-wide taped book program. The library of the Canadian National Institute for the Blind, in Toronto, has the largest service and collection of its kind in Canada and produces both braille and audio books for the use of the blind. In addition, CNIB's branches across the country produce materials for blind users. The Central Audio Book Library in Winnipeg, Manitoba, has been producing taped books for visually and physically handicapped students in the Manitoba school system. The Crane Library at the University of British Columbia, in Vancouver, has a large collection of audio and braille books and ranks second in size in Canada to the CNIB Library. The Library Development Commission of British Columbia plans to develop a service for the visually and physically handicapped, to be provided through the public libraries of the province.

These are only a few of the services that currently exist in Canada. The provincial departments of education are also attempting to improve and to co-ordinate library service to handicapped students; to this end, an Inter-Provincial Task Force on Educational Materials for the Handicapped has been formed by several of the departments of education. The Canadian Library Association is taking an active interest in improving and co-ordinating the service for the handicapped and has established a task force to ameliorate present service. The National Library itself is committed to the same object.

The National Library of Canada, a relatively new national library established in 1953, has only recently been

able to turn its attention to more specialized services. One of these, soon to be established, will be a service for the handicapped.



A visually handicapped person listening to a talking book at the Canadian National Institute for the Blind.

About two years ago, the National Library began gathering information concerning existing library services in Canada for the handicapped, and it quickly became apparent that there was a need to improve, co-ordinate, and standardize present library services in Canada for the blind and handicapped. In addition to the services already mentioned, a number of taped-books projects have been launched in various localities.

Canadian librarians and educators have become very conscious of the need to satisfy the legitimate requirements of the handicapped and to provide adequately funded programs.

Private and public investment outlook

Capital spending by all sectors of the Canadian economy in 1975 is expected to reach \$36.77 billion, an increase of 14 per cent over the 1974 level of \$32.38 billion for outlays on new buildings, machinery and equipment. (These estimates are in current dollars without any adjustment for price increases expected to develop during the two years.)

Within the total for 1975, expenditures on new construction are expected to advance by 13 per cent to a total of

\$23.13 billion. Non-residential construction spending is projected at \$16.38 billion, an increase of 21 per cent from last year's total; but based on a level of 210,000 new housing starts expected in 1975, residential construction expenditures at \$6.75 billion will show a decline of 3 per cent from the 1974 total.

Acquisition of new machinery and equipment during 1975 is expected to amount to \$13.63 billion, up 15 per cent from last year's level of \$11.87 billion.

Planned outlays for the business sector of \$23.40 billion incorporate an increase of 18 per cent from the \$19.90 billion spent in 1974. Manufacturing plans for expanded capital outlays indicate a rise of 21 per cent over those of last year. Capital spending by institutions and government departments is expected to reach \$6.61 billion in 1975, an increase of 20 per cent over the 1974 figure.

NWT claim-staking restrictions removed

Claim-staking restrictions imposed in the Northwest Territories by a section of the Canada Mining Regulations have been eliminated as of January 16, 1975.

Under Order-in-Council P.C. 1975-73, any licensee may now stake an unlimited number of claims in any area defined by a mineral-claim staking sheet. Before January 16, a licensee could not stake more than 36 claims within each mineral-claim staking sheet in any given year.

Before the staking restrictions were removed, there were differing interpretations of the section in question. It was common practice for a licensee to hire stakers to locate claims in excess of the authorized 36 and have them transferred to himself.

Because of this differing interpretation in the past, Parliament, by statute, has validated all recorded mineral claims and leases in excess of 36 claims acquired before January 16 by a licensee.

(Further information concerning these new regulatory provisions may be obtained from the mining recorders for the Northwest Territories or the head of the Mining Lands Unit in Ottawa.)

Senior citizens' housing study

When *Beyond Shelter*, a study of senior citizens' housing, financed under the National Housing Act (NHA) was published in the summer of 1973, its 48 recommendations to improve housing for the elderly created much interest.

A complete housing "package" includes not just shelter, but access to recreation facilities and social and transportation services as well, the study says, because the world of the elderly is their housing development and its surroundings.

Beyond Shelter includes surveys, case studies and analysis of the legislation affecting more than 23,900 self-contained housing units and 7,900 hostel beds in 746 developments built from 1956 to 1970, 90 per cent of it under the NHA.

The study was conducted by the Canadian Council on Social Development with the aid of a grant from Central Mortgage and Housing Corporation. Recommendations were made in four major areas.

One of the most important factors was the style of management, the study emphasized. Management in senior

citizens' housing needs to be greatly upgraded and "professionalized". Higher salaries, training programs and career advancement would do much to attract capable staff.

Beyond Shelter stresses the importance of developing preventive health services to aid the elderly in their own home so that they can be as independent as possible and continue to live outside institutions. Included in these services are nutritional counselling, meal services and nursing care.

Housing developments for the elderly should be built in association with major community facilities such as shopping areas, recreation centres and churches, the study says. If they are not included in the development, they should be located nearby. Sponsors should be able to show that tenants will have satisfactory access to community facilities or provide a transportation system so that the facilities can be easily reached before approval is given for their project.

Social animators should be assigned to each development to help new residents adjust, assist in planning recreational programs and encourage the residents' involvement and participation in recreation activities. Crafts and hobby rooms, library services and

opportunities for physical exercise should be available.

Because of widespread interest in the study, the Canadian Council on Social Development requested and received a \$29,500-grant from Central Mortgage and Housing Corporation to help cover the cost of conducting workshops in five regions of Canada. The workshops are designed to discuss the recommendations made in *Beyond Shelter* and inform those involved about what is being done and what can be done in both the public and private sector to improve housing conditions for the elderly.

Nuclear industry to assess progress

Canada's nuclear experts will meet in Ottawa from June 15-18 for its annual look at achievements, challenges and problems in the development of peaceful uses of atomic energy at home and abroad.

More than 500 delegates from Canada and other countries will survey economic development and nuclear policy, the environmental and safety aspects of nuclear energy, and progress in Canada and other countries in research, industry and manufacturing. Inflation and capital requirements are other key topics on the agenda.

Halifax seeks town crier

The City of Halifax, Nova Scotia, is looking for a town crier to keep tourists and citizens informed of daily events, shopping information and news. And, although the search started last autumn, a suitable candidate hasn't turned up yet.

"It all started," an official explains, "when owners of exclusive specialty shops went looking for a tasteful, yet acceptable, advertising medium. We wanted something that would reflect the integrity of the restoration and development project and get the message across." A three-acre waterfront area in Halifax is now being restored.

Merchants are conducting business from refurbished shop fronts some dating to the early 1800s. To complete the picture, a town crier is considered a must. Applicants should have experience — and ability to communicate, says the advertisement.



The physiotherapy 'class' in progress at a senior citizens' nursing home in

Nipawin, Sask., providing welcome exercise and entertainment.

Problems of human settlements — (Continued from P. 2)

to shift these trends toward more desirable objectives....

Canadian strategy

Basically, and briefly, we are looking at a strategy that embraces objectives and policies in three interrelated areas: *first*, the future size of Canada's population and its rate of growth; *second*, the distribution of our future population across Canada and in our urban communities; *third*, the management of our future urban growth so as to create the kind of cities and communities that we want. These are difficult policy areas and effective responses in them will not be easy to provide. But they will be provided, implicitly if not explicitly. Given our federal system, it is desirable, if not necessary, that they be provided explicitly.

In Canada we are asking ourselves: if the patterns of growth being unfolded by the trends are unacceptable, what alternative patterns of growth would be desirable? What public spheres can best be used to achieve them? And what public policies can best be used to create communities that are livable, human in scale and in harmony with the natural environment? The responses to these questions cannot be imposed by any level of government. It is essential to achieve a broad national consensus on the objectives we are to pursue. Once we have that consensus, we shall need to determine the best means available compatible with our value-system and our democratic form of government.

Canada is not unique in asking these questions or in searching for appropriate responses to them. That is evident from the five tentative themes for "Habitat" adopted by the UN preparatory committee in January. The *first*

of these, in fact, is "policies and development". The *second* is "the social and economic aspects of settlements". The *third* is "the planning and management of settlements". The *fourth* is "the design and construction of shelter and services". And the *fifth* is "human settlements and the natural environment".

Virtually every member country of the UN faces the problem of rapid urbanization and the need to manage urban growth. When it comes to means, we have a great deal to learn from one another. We in Canada are especially interested in the experience of Western Europe and the Commonwealth, with many of whom we share value systems and forms of government.

Each country, of course, has to develop its own response to urbanization and its own means to manage urban growth. The scope for international action on the problems of human settlements is limited. The really vital actions needed to solve these problems must be undertaken by countries themselves. This is as true for developing countries as it is for developed countries.

That is why, in the preparations for "Habitat", nations have agreed to spend a great deal of time and effort in identifying approaches to human settlements problems that have been applied in one country or region and that may have elements that are transferable to other countries or regions.

I believe that through this kind of exchange people and nations and governments will see that human settlements problems are capable of solution, that solutions are indeed available if we have the common will and wit to apply them, that we don't need to shirk from addressing these problems.

* * * *

Four areas for advance

In my view, at this stage, "Habitat" should make a significant advance in at least four areas.

First, "Habitat" should have a number of important program results. These could include, perhaps, a decision to have an on-going UN human-settlements demonstration program. If a concrete program for the exchange of information and ideas on human settlements were established, it would be of tremendous benefit not only to those nations where urban problems are of the greatest con-

cern but also to Canada, Britain and other developed nations.

Another area where "Habitat" should have important results is in education and research. These, perhaps, could include a decision to strengthen and establish a number of regional urban-management training institutes. There is an acknowledged need to better the competence of urban management throughout the world both in the developed and developing nations. And I think it is essential to the future of human settlements that nations develop and train leaders and officials who can grapple with the task of managing the huge cities that are an inevitable part of our future.

Another result was called for when the General Assembly launched "Habitat". The Assembly requested that the conference should have a "financial" and "institutional" result. Canada recognizes that this is very important. We also recognize that any recommendations in this area, to be meaningful, will require the most careful consideration and must carry the broadest possible measure of support from governments.

Finally, I should like to see "Habitat" adopt a firm declaration of principles with three basic characteristics. It should recognize the fact that human settlement is one of the critical issues of mankind. Secondly, it must recognize the diversity and complexity of human settlements and it should identify the main areas of action as well as the political and scientific resources that need to be marshalled. Thirdly, it should represent a commitment by governments to tackle human-settlements issues with the resources and urgency that are required.

I realize that this is a tall order. But this is what "Habitat" is all about and, in developing and refining such a declaration of principles, it seems inevitable that our understanding of human-settlements issues, and the commitment by our governments to their resolution, will be strengthened. And this will benefit all nations.

The challenge is immense, but it will not disappear. Indeed, it will intensify and demand the most thoughtful, cohesive and energetic applications of our diverse and disparate resources. "Habitat" presents a unique and timely opportunity to harness the genius of man to meet this challenge.

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