



Report of the Third International Expert Seminar on Building Non-Handicapping Environments: Accessibility Issues in Developing Countries

Tokyo, September 10, 1988

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About CIB

Preface

While persons with disabilities have always been painfully aware of the limitations imposed on them by man-made obstacles, it is only recently that accessibility in the built environment for old and disabled citizens has started to become a concern of builders and planners. Still more novel is the recognition that these issues are of mounting importance also in the so-called developing countries. Increasing life expectancies of a growing segment of the population due to advances in health care delivery and accelerating rates of urbanization have resulted in snowballing populations of old and disabled persons in the urban areas of Third World countries. At the same time, the rising influence of organizations of disabled people is creating a growing awareness of accessibility issues in these parts of the world.

These developments present new tasks for those concerned with accessibility in the built environment as a basic human and civil right for all. The present seminar is one attempt in beginning to identify the issues involved.

As can be seen from the contributions, much of the meeting was dominated by Japan's concern over its growing population of old persons. The language used in some of the presentations on this theme often does not convey the recognition that age and disability are normal conditions of life in a statistical and human life cycle sense. What is sometimes conceived of as a problem is the fact that the population enjoys better health at an older age.

The real problem, instead, seems to consist of the results of the unwillingness on the part of builders and planners throughout history to consider old and disabled persons as equally important citizens who have a right to live in society and are not to be shut away in special facilities. If disability is seen as a special phenomenon rather than a normal characteristic of life, special housing and special facilities will appear as immediate and convenient solutions. Hopefully, through meetings such as this the message can be spread that disabled people are here to stay and that it is much better to take this fact into account in all planning from the very beginning.

The term "independent living" is generously used by some of the contributors of the seminar, often in connection with special purpose-built housing for old and disabled persons. The definition of "independent living" will, of course, be a function of local conditions including family structure, housing choices and available economic and social alternatives. The term was introduced in North America in the 1960's and was originally used as a synonym for de-institutionalization, i.e. keeping disabled persons out of special, segregated facilities for housing, education and work.

Today, Independent Living has become the name of a world-wide civil rights movement of persons with disabilities. While the movement is represented in many countries with greatly differing conditions, most members would agree on a definition that contains, as the least common denominator, the demand for equal opportunities and the same choices that the general population takes for granted in such areas as housing, transportation, education, work, culture, economics and politics. According to that interpretation, special and segregated facilities exclusively for the use of old and disabled persons would not fit the definition. In fact, no single type of housing in itself can be called "Independent Living", since the term implies access to a range of choices.

Choice is the key to Independent Living. Today, the general population including politicians and planners still see persons with disabilities as helpless victims, objects of care, public policies and the charitable sentiments of their fellow citizens. The concept of choice, on the other hand, would require a different view. Choice assumes social and economic agents who are capable of making decisions in their own best interest.

Choice as a goal for planning and politics requires a shift in attitude on the part of the general population and persons with disabilities themselves. This change has vast implications for the practical work of planners, designers and government officials. To create the same options and alternatives for everyone requires persons with disabilities to organize themselves, to formulate their needs and to voice their demands through the political process. The work consists of turning the built environment everywhere from an environment which, at worst, presents obstacles and, at best, tolerates persons with disabilities into an instrument for enabling persons with disabilities to reach the goal of equal opportunities.

Adolf D. Ratzka, Ph.D.
Editor

Presentation of the Organizers

Organized jointly by

CIB, the International Council for Building Research, Studies and Documentation, Working Commission W84 and the Architectural Institute of Japan, Tokyo in cooperation with ICTA, International Commission on Technical Aids, Building and Transportation

sponsored by

the Swedish National Council for Building Research, Stockholm and sponsors of the Architectural Institute of Japan

CIB is the abbreviation of the French title of the International Council for Building Research, Studies and Documentation. CIB's purpose is to facilitate and develop international cooperation in building, housing and planning research, studies and documentaion, covering not only the technical but also the economic and social aspects of building and the related environment. CIB with its over 100 Working Commissions works through Congresses, Symposia and Colloquia. More on CIB, its membership and activiies, can be found in the Appendix.

In 1983 CIB established a Working Commission in the disability area. Professor Sven Thiberg was appointed Coordinator of the Working Commission which received the name "Building Concept for the Handicapped". The Commission's secretariat was placed with the Department of Building Function Analysis, School of Architecture, The Royal Institute of Technology, Stockholm. Funding has since then been provided by the the Swedish National Council for Building Research.

CIB W84 works towards

raising the general level of expertise of and to stimulate interest in accessibility issues among the groups who influence shape and role of the physical environment,

contributing to R&D and international exchange within well defined areas of strategic importance that up to now have been neglected and are suitable for international exchange of experiences,

strengthening contacts, exchange and cooperation on a regional level by utilizing the benefits inherent in cultural and linguistic congruence.

The Working Commission's first Expert Seminar took place in Stockholm in 1984. Among the outcomes of the Seminar were recommendations and priorities for the Commission's future work. At the meeting CIB W84 changed its name to 'Building Non-Handicapping Environments'. The Seminar's proceedings are published in Report of the International Expert Seminar 'Building Concept for the Handicapped' in Stockholm, April 10-12, 1984, The Royal Institute of Technology, Department of Building Funcion Analysis, Stockholm.

The second Expert Seminar organized by CIB W84 took place in Prague, Czechoslovakia in 1987 under the theme "Renewal of Inner Cities". One of the outcomes of the meeting are the Prague Resolutions which have become the guidelines CIB W84's work. The resolutions are reproduced in the Appendix of the present report. The documentation of

Building Non-Handicapping Environments: Renewal of Inner Cities, Prague, October 15-17, 1987, The Royal Institute of Technology, Department of Building Function Analysis, Stockholm.

Other activities of the CIB W84 Secretariat include editing a semi-annual newsletter and conducting a limited number of research projects. Future seminars on accessibility issues in developing countries are planned.

The Department of Building Function Analysis, where CIB W84's Secretariat is housed, studies the relationship between man, built environment and society. The original focus has shifted from the definition of spatial and other basic functional user requirements to more complex aspects of the use of buildings and urban environments including decision making processes in planning, building and management as well as housing in developing countries. The aim is to provide data and arguments to enable environmental designers and users to advocate users' interests in the planning process and to widen the public debate in cultural, economic and political terms.

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Opening Statements

Dr. Yasumi Yoshitake

Chairman, Executive Committee, Architectural Institute of Japan

It is a great pleasure and privilege for me to welcome you all to this seminar on "Building Non-Handicapping Environments in Developing Countries". I believe this opportunity will strengthen relationships between CIB and the Architectural Institute of Japan. The theme of the seminar is very important not only for us but also for everyone in the world. A better environment for persons with disabilities is a better environment for everybody. In Japan this theme has been the focus in both research and practice during the past 15 years. In 1977, a special committee was established to actively work with this subject. This seminar has been organized on the Japanese side by this committee under the leadership of Dr. Hayashi. Although our achievements in this area have been limited, it is a great pleasure to share our experiences with you in this seminar and workshop. I wish you a successful meeting with fruitful results in your efforts today as well as your work in the future.

Prof. Sven Thiberg

CIB W84 Coordinator

It is a pleasure for Adolf Ratzka and myself to introduce the CIB W84 work in this part of the world by the support of Dr. Tamako Hayashi and all others in the planning committee. Without their professional, energetic and friendly support this seminar would not have been possible. We also thank the Architectural Institute of Japan for opening its

doors to this seminar and Rehabilitation International for including us in its efforts to strengthen the positions of persons with disabilities throughout the world.

When the CIB/W84 Program Committee met in Prague in October 1987, we identified a series of possible projects, among them regional seminars on specific issues. I quote from the Prague Report, page 24:

While planning for the Prague Seminar the CIB W84 Secretariat received registrations from over 40 experts and representatives of disability organizations from developing countries. Only three persons, however, were able to participate on account of the high travel costs.

There is a growing interest in accessibility issues in developing countries the reasons being rapid urbanization, an increase in the old population and such disabling conditions as warfare, high accident rates and malnutrition. In recent years organizations of persons with disabilities have been gaining increasing strength in developing countries and their demands include research and planning measures for improving accessibility of the built environment. Literature and case studies in this area are almost non-existing. Efforts are required to identify research needs, to examine the transferability of existing knowledge and methods and to increase the awareness for accessibility issues among decision makers and planners.

CIB W84 in addressing these needs is planning a series of regional seminars with the aim of introducing accessibility issues to the political and scientific arena. The first seminar in this series is planned for Tokyo in September 1988 in cooperation with ICTA, International Commission on Technical Aids, Building and Transportation in connection with Rehabilitation International's 16th World Congress.

Thanks to our hosts and colleagues here today this proposal is now a reality. Even if this is an encouraging fact, I can not avoid some thoughts of less optimistic character. Even this time the contributions from so-called developing countries are very limited in number. There are many reasons for that:

- Research and development work in our field is not usually found in these countries.
- To find resources to house the homeless is often an overflowing problem— the need to include all citizens in this process is not defined.
- Persons with disabilities themselves have not yet organizations strong enough to put pressure on authorities, politicians and planners.

And finally,

- The very few who have research and development in our field as their profession, very often have no, or limited, resources for travel outside their own countries.

This affects our seminar and makes it even more important. It is our responsibility to define the problem area, to formulate programs for future activities within CIB/W84 in this field and to call for support from the world's rich parts for research and development work. In our opinion, these are the main goals of our seminar.

We welcome all professional and creative contributions to our discussions during this

day. We have a long series of interesting and qualified presentations to start from and good opportunities to be concrete and outspoken.

We start today's work with a series of presentations. After each presentation there is a possibility to make short comments or questions. After the lunch break we will present a proposal for a structure of the discussion. But already now I want to introduce some key questions for us to consider.

When building non-handicapping environments in so-called developing countries, which are the most important hindrances and the most useful means to overcome these hindrances?

- social and cultural factors
- economic and technical factors
- geographical and climatic factors
- lack of materials, constructions and technical solutions
- lack of legislation, regulations and financing rules
- lack of planning and design capability or systems
- lack of user participation and pressure groups
- lack of knowledge, research and information

I think it is possible for us to use our experiences from different countries and different backgrounds in this seminar to try and find what is general and what is specific for all of us including the so-called developing countries. And also, what is specific for each country itself, for sometimes I believe this generalization of developed and developing countries is wrong. Let us hope we can develop today constructive proposals and creative approaches to problems such as those I have just read for you.

Dr. Mickey Milner

Immediate Past Chairman of ICTA, International Commission on Technical Aids, Building and Transportation

Professor Thiberg, Dr. Ratzka, Dr. Hayashi, Ladies and Gentlemen, I am honored to have the opportunity to say a few words at this cooperative venture relating to building non-handicapping environments, a collaborative venture between CIB, ICTA and the Architectural Institute of Japan. I am intrigued with the significant preparatory work that has been done as well as with the exciting program that has been put forward. This is testimony to the significant effort that individuals have put into making this particular meeting a success. I am also excited by the number of participants and I trust we will all be able to learn significantly from each other in this exciting venture today.

I should point out that ICTA is a commission of Rehabilitation International which is concerned with building, transportation and technical aids. It may be of interest to learn that the international symbol of accessibility was borne out of ICTA's activities. For the coming years we have identified some significant areas of involvement, including access and a review of that symbol in the ways it could be utilized to signify accessibility for all people. We are looking at access in terms of three levels: developed countries; countries that might not have developed in the ways they would have liked to because of political structure; and then, developing countries which obviously are emerging in regard to opportunities of access for persons with disabilities. We are also very concerned with the provision of technology, not only in terms of technical aids per se but also the dispensing of that technology; with the needs of service programs and with the educational requirements for individuals to be able to provide that kind of technology. I think the kinds of things we will be discussing today have pertinence for our educators to ensure

that subsequent generations of workers in various areas can provide the right kinds of technologies for appropriate access.

I am grateful as well to Mr. Tomas Lagerwall who has contributed, from ICTA's part, to 'ICTA Inform'. This is a medium that provides messages to the world community relating to Rehabilitation International's activities in regard to technical aids, building and transportation. And, no doubt, they will be featuring in that particular medium some information Tomas Lagerwall and myself will carry away from this meeting here. Please feel free to use that medium to convey messages that are of importance to you.

Methodological Issues in Developing Public Non-Handicapping Environments in Japan

Tamako Hayashi, Tokyo Metropolitan Institute of Gerontology, Japan

Introduction

This seminar's topic is "Building Non-Handicapping Environments in Developing Countries". Although Japan is the second largest country in the world in terms of GNP, it is still a developing country in terms of building environments which are also accessible to persons with disabilities.

In Japan, a group of disabled persons began the movement for non-handicapping urban environments in the 1970's. Researchers and administrative bodies have tried to respond to various requirements of persons with disabilities, but such an environment suitable for the independent movement of wheelchair users has never been fully realized in any Japanese city.

Nationwide, design guidelines for public buildings and transportation is one of the most important requirements for the establishment of an accommodating urban environment for persons with disabilities. This paper reviews the historical development towards non-handicapping environments in Japan and reports the results of a survey on the present situation and concludes with discussing some unsolved problems. I would like to have comments by participants from developed countries and I hope this presentation is of some assistance to those who are tackling the problem now.

Historical Development of Non-Handicapping Environments in Japan

As in many other countries, the establishment of non-handicapping environments in Japan began from a movement by disabled persons seeking to widen their everyday environment. Research and administrative action has resulted in the realization of various aspects of their needs. In 1970, a volunteer and a disabled person met in Sendai City. A volunteer group named "Niji no kai" (Rainbow Group) emerged which aimed at widening the area of daily life for persons with disabilities in cooperation with a group of disabled persons and other citizen groups. Later, as a result of increased participation, the organization was renamed "Citizens for a Welfare City". They asked the city administration to construct public toilets and ramps for wheelchair users. This was the first public attempt to make such improvements.

In 1972, disabled workers at "welfare factories" established a group called "Promoters of a Barrier Free Environment" in Tokyo. A similar movement followed in several other cities: Kooriyama in Fukushima Prefecture, Kyoto, Nishinomiya and Kobe. In 1973, the Welfare and Culture Department of the Asahi Newspaper Corporation sponsored a nationwide meeting of wheelchair users. At this time, the movement for a broader area for daily life evolved into the quest for the right of disabled persons to live a human life. Subsequently, local branches were set up.

In response to these movements, Machida City established design guidelines for buildings for non-handicapping environments. Kyoto, Tokyo, Yokohama, Kobe and others followed. In 1973, the Ministry of Health and Welfare initiated the policy "Model Towns for the Welfare of Physically Disabled Persons".

In 1979, the Ministry changed the policy name to "An Environment of Increased Amenities for Persons with Disabilities". At present, 194 cities and towns participate in the program and various policy measures have been adopted which include: leveling of curbs at crosswalks; introduction of a guidance system for visually disabled persons; and improvement of public facilities and transportations. The program also tries to promote the establishment of organizations and activities that advocate more participation of disabled persons in social activities.

As to the building design, the Ministry of Construction and others have taken the initiative by publishing various design guidelines. Professor Yasumi Yoshitake, chairman of the Japanese organizing committee for this seminar, has played a leading role in compiling the guidelines "Design of Public Housing for Wheelchair Users and old persons" in 1973, "Design Guidelines for Public Buildings and Transportations with Reference to Disabled Users" in 1976, "Design Guidelines for Japanese Railway Stations for Persons with Disabilities, Especially for the Visually Disabled" in 1977 and "Design Standards for Disabled Users" in 1982. The Ministry of Construction started a special loan program to compensate for the additional costs of buildings designed in accordance with the above stated design standards.

The Present Situation of Building Non-Handicapping Environments in Japan

The historical development of non-handicapping environments in Japan clearly shows that it is necessary to involve many people in its development. Requests by users and volunteers, technical assistance by architects and building engineers and advice on legal and administrative aspects were all needed to realize a better non-handicapping environment.

The Sub-Committee for Non-Handicapping Environments in the Architectural Planning Committee of the Architectural Institute of Japan conducted a survey on the present situation of accessibility in the built environment. A questionnaire was sent to local governments, Prefectures, cities with a population of 100,000 or more and cities with a population of 50,000 or more which participate in the program "Increased Amenities Town for Persons with Disabilities". 301 copies of the questionnaire were sent out and 167 local governments replied. The return rate was 55.1%. Based on the results, problems that occurred during the process of realizing non-handicapping environments and points of further discussion are reported in the summary.

The Establishment of Design Guidelines

Larger cities are more likely to have guidelines. Of cities with a population of 200,000 or

over, more than 36 per cent have them. While 27 per cent of the cities with a population between 100,000 and 200,000 also have guidelines, they exist in only 9.5 per cent of the smaller cities. The guidelines have been greatly improved. When the same survey was conducted 9 years ago, only 12 per cent of the cities with a population of over 200,000 had guidelines.

Cities with a special legal status are quite positive in establishing design guidelines and their contents are well defined. This year the Tokyo metropolitan government has revised its previous 1976 guidelines and hopes to unify them. Some of the wards (KU) follow these guidelines, others have different guidelines and still others have no guidelines at all.

Over half of all the county councils did not have any guidelines. They lag far behind and are less enthusiastic in establishing guidelines than the larger cities within their areas.

Methods of Application and Problems

Welfare departments are more likely to be involved in the establishment of guidelines and their enforcement than building departments. This is mainly because the move towards non-handicapping environments was first reflected in the welfare policy measures of local governments. Guidelines are inspected either before application for a building permit or after. The former is a kind of consultation that checks whether accessibility can be realized. In some cases, building officials are involved in the process. In the latter case, the plans and a detailed draft are usually forwarded within the local government from the building department to the welfare department for inspection. For local government buildings, inspections are usually carried out by building departments, whereas privately owned buildings are inspected by the welfare department.

Non-handicapping environments can be realized only when the area around buildings is well designed, including streets and transportation facilities. Welfare departments are prepared to investigate this consideration from a wider perspective, but sometimes they lack specialized knowledge about building design. Building departments, on the other hand, are short of the necessary staff to actually conduct an investigation based on a real understanding of the problems of citizens with disabilities. Barrier-free environments must not only be developed through the eyes of an architect but must engulf a comprehensive perspective including transportation facilities, civic considerations, etc. The Ministry of Construction needs the authority to conduct such a thorough investigation.

If no legal measures for enforcement exist, design guidelines are only optional and the consultation process is ignored. Some staff members strongly request legal power for enforcement.

Contents of Guidelines and Their Problems

There are many cases where the guidelines are only applicable to the buildings of local governments. Many local governments exempt privately owned buildings, public housing, schools, railway stations, etc. from legal guidelines. Some local governments have introduced an exemption based on the size of the floor area, but this is not appropriate, since also smaller public buildings need a non-handicapping design.

Most guidelines are oriented towards "how to design" and not "what should be done". Lack of legal enforcement causes building designers to take an indifferent stance concerning the need for non-handicapping environments.

The guidelines are in principle based on how to temporarily use the building. They are not, however, based on the needs of persons with disabilities who actually work in the building. Therefore, more guidelines remain to be desired.

In establishing guidelines, only comments from researchers and users are taken into consideration. Since there is a lack of involvement by designers and contractors, they can not completely understand the guidelines and they do not fully cooperate with them.

The guidelines are mainly for new buildings and for major remodeling. Most existing buildings remain unchanged and a non-handicapping environment can hardly be realized as a total entity.

Problems of Application

Smaller cities complain about cost problems, for the most part, related to elevator installation. Some points need further consideration such as design specifications of escalators for wheelchair users and the position of wheelchair toilets relative to ordinary toilets. Nationwide uniformity is desired for a guidance system for the visually disabled persons, particularly, the shape of the floor design and their patterns: warning, guiding or indication. Our present guiding system based on music is also not consistent.

Development in The Past 10 Years

Some local governments are revising their guidelines to improve the quality of policy measures. Some of the most significant changes include the increase in the number of electric wheelchair users, the need for more social participation and the emergence of an aging society. The problems of an aging society are not yet clearly defined and differences in needs between wheelchair users and old persons are not yet well understood.

Future Tasks A nationwide uniformity of guidelines is strongly desired by the local government staff. Enforcing standard guidelines throughout Japan and complementing them with local rules in response to respective needs would be a sensible solution.

The involvement of building designers and contractors in the preparation of non-handicapping environments is essential. It is desirable that this be carried out on the basis of a deep understanding of the needs of persons with disabilities by designers and contractors and not only by "administrative guidance" or regulatory measures. It will perhaps be necessary to educate specialists who have a deep understanding in both building design and environmental needs of persons with disabilities.

Until now, considerations of a barrier-free design for wheelchair users have been far from perfect. The necessity in planning a design for an aging society has also become a problem.

Non-handicapping environments should evolve from specific improvements to general area improvements. Few cities have reached the stage of covering a general area, one that ranges from buildings and parks to streets and transportation facilities. (Kyoto and Kobe have accessible subways.)

Accessibility and usability have been the prime concern of these guidelines. From now on, however, problems of domestic accidents and emergency egress should also be

considered.

Conclusions

We would like to remind you again of some of Japan's future problems. We would appreciate an active discussion concerning the following points.

Uniformity of guidelines: The public sector's role in considering local characteristics. What are the basic requirements for nation-wide standards?

Dissemination of information: How can the continuity and uniformity of non-handicapping environments be maintained and how can the education of designers and contractors be effective?

New challenging topics are

- To what extent can we facilitate non-handicapping environments for severely disabled persons, such as electric wheelchair users?
- What are the most important aspects of non-handicapping environments in an aging society?
- Disabled persons have access to an ever increasing environment, however, we must resolve the problem of egress, especially in emergencies.

The International Year of Disabled Persons has stimulated a great drive for the development of non-handicapping environments in Japan. Problems that I have pointed out are common to all countries designing a physical environment based on "full and equal social participation for all." I sincerely hope this seminar will be useful in moving us towards our goal of creating non-handicapping environments.

Accessibility and Integration Based on Patterns of Building and Living

Ramesh Kumar Biswas, Vienna, Austria

Why do architects so often design buildings which they themselves would find difficult to use in their old age? Most buildings are designed by and for healthy young persons, not children, old people and disabled persons. But disablement is not something that happens just to others - it happens to all of us at several stages in our life-cycles. Most of us are completely unaware of what it means to be handicapped in our movements until we grow old. As the result of a traffic accident some years ago I realized for the first time what it meant to be handicapped even if it was "only" for a period of a few months. Half of the period I spent in the developing country where I had the accident and the other half in a country where I had the benefits of advanced institutional care. Having had the opportunity to compare the two, I felt that the practice in developing countries of disabled people living with and being cared for by their families resulted in more integration than in Western countries where there is more institutional care. Oriental philosophies see all problems as interconnected by a dense network of cross-linkages. To try to solve individual problems in an isolated way which is the rationalistic way, often causes unexpected new problems and effects opposite to what was intended. Thus, special facilities for persons with disabilities have often led to even greater isolation. In the

specific case of the built environment it is clear that the problems of persons with disabilities are aspects of a larger disequilibrium.

In trying to recognize what is 'enabling' and what is 'disabling' in traditional surroundings in developing countries the local patterns of living and patterns of building are of paramount importance. Rather than planning technical measures, such as lifts or automatic doors, to alleviate inconveniences caused by thoughtless building, design should be based on these patterns. Technically-based measures are uneconomical and inappropriate in developing countries. I submit that the basis for design should be the observation and adaptation of existing patterns of building and living, some of which are described below.

Clearly persons with disabilities and the aged can not be integrated socially until they are first integrated physically. On the larger scale one sees that the mixed use of working, living and social functions as well as the easy reach of the work place on foot are characteristic of traditional settlements. In the newly urbanized areas in developing countries motorized transport as well as the accompanying insurmountable roads cause barriers. There should be no separate access [^] la Radburn (due to the waste of land) but combined access with narrow streets and slow speeds. The streets and squares must have pockets of activity at their edges which make it natural for people to pause and get involved. Planning on the larger scale for new settlements or the adaptation of existing ones must institute and reinforce mixed use, high density, decentralized and dispersed medical nursing and therapeutical services within the area.

Much more important is design on the small scale. Traditional verandahs and platforms outside houses act as intermediate zones between private and public and are places where the old and persons with disabilities sit, communicate and become part of the life around them. Apart from the climatic functions of such superstructural elements, they serve the purpose of integration in society.

According to climatic region, low open windows and balconies also serve this function. Modern housing hardly ever has these elements, though I have seen cases where they have been added by the residents. How can we best incorporate them in design?

The guides to designing these elements in modern housing would be governed by their actual measurements and placing in traditional housing. But we could also decide their situation and distance from each other based on optical and audial measurements acquired through actual experiments. That is, the distances between the front doors, between the street and entrances, between windows should be based on the optimal distances within which one can carry on conversations, call for help if necessary, keep an eye on children and call them from an upper-story flat, see the expressions on a neighbor's face etc., with appropriate adjustments for local cultural concepts of privacy and socializing.

Public buildings are often rather unfriendly - they do not generally invite the public in. They do not create the possibility of a connection with the public world outside; they operate essentially as private territory for the people who are inside. This is due to the lack of strong connections and realms of space that are ambiguously a part of the building as well as of the purely public world outside. One classic solution to this problem is the arcade which creates a multifunctional territory between the public and the private world, thus improving access. But to be successful, it must become a place and not just a corridor, it must connect to the inside through many doors, windows and half open walls, then people are drawn into the building. If arcades are further connected and interlinked; sheltered, traffic-free movement between buildings is possible and much of the business of the town then actually takes place in them. Indeed, Bernard Rudofsky claims that such space takes the place of the ancient forum or meeting square. Their function goes far

beyond providing shelter against the elements or protecting pedestrians from traffic.

There are other means which dissolve the barriers between streets and buildings and make the transition between them easier, for example, pergole, awnings sometimes stretching across the whole street, tent-like structures or permanent roofs. These are characteristic of the Orient or Western countries with an Oriental heritage. Sheltered openings and balconies play an important role; if the actual users of the buildings can not look out from balconies and terraces towards public outdoor spaces around the building, they do not have a medium which helps them to feel the intertwining of public life and their own life. Vision and contact act as stimuli engendering action within the scope of the disabled spectator.

The way buildings are conceptually organized decide how accessible they are. Too many institutional buildings are monolithic and undifferentiated, give an impression of inaccessibility and disorientation and people working there are seen as personnel instead of as persons. A building can not be human unless it is a complex of still smaller buildings or smaller parts which manifest its own internal social facts. For psychological reasons, a building should be broken down into its component parts to enable more human contact between the people who work in it and between them and the outside world. And for practical reasons each of these component parts or autonomous departments can be more easily accessible directly from the street or a court rather than through a central entrance and long corridors. Access is thus made easier for the blind and for persons with physical disabilities. This means circulation should be externalized, not internalized. The climate in most developing countries allows this. Where it does not, access can be from covered public thoroughfares. The collection of small buildings which are components of the whole can then be reconnected by arcades, paths, bridges and ramps.

Legibility and orientation are important aspects of public buildings. A building which is easy to understand is also easy to use, for the blind as well as for everybody else. To move around in a building it should be possible to make a mental map of it. Therefore it should have a system of realms which are easily identifiable and familiar, such as courtyard, entrance, stairs, rooms. We have been talking about making life easier for persons with physical disabilities, but familiarity and orientation have a special relevance for the mentally disabled.

Shopping should take the form of traditional bazaars - small shops consisting of small rental spaces should be planned instead of big centralized shopping centres. Shops should be directly accessible from the street and not in internalized multi-storied buildings.

I also believe that the choice of construction materials has an influence on how 'friendly' the building is to disabled people. Here I suggest two opposite approaches to designing housing and public buildings. Houses should not be built specifically for disabled people, but should have a wide scope for adaptability and transformation by the residents. Public buildings on the other hand, offices, cinemas, etc. should be built with the assumption that they will be constantly used by disabled and old people and children and should be careful in detail and generous in concept. Recognizing the fact that it is neither possible nor desirable to design all housing units for one or the other type of disablement, the most practical and economical approach is to design normal houses which are built of materials which can be worked by the residents without much skilled labor.

Ramps, openings, access and circulation can be cut in modified or added to. People who are disabled temporarily or permanently due to an accident could continue to live in the same house and within the same community rather than being forced to move out. But buildings of relatively 'high-tech' materials, such as concrete and steel, are usually never

adapted because of the high technical skills, cost and the unresponsive administrative structure involved. This is especially relevant to new institutional buildings, which should avoid the prestigious or monumental modes which are hostile, not only to disabled users. I am talking about the use of traditional and ecologically acceptable materials like mud and timber, but I suggest we also turn an eye to the so-called 'slums' in developing countries and learn a lesson from them. There, available materials (sometimes waste materials) are used, combined, modified and exchanged as the need may be. This gives them a degree of flexibility that most pre-planned buildings do not have. It is a practical means of improving accessibility cheaply. The use of low-cost materials and methods of construction also means that easy and generous access facilities for everybody can be afforded instead of small, separate access features for persons with disabilities. When separate features are provided only for persons with disabilities, they often add to their psychological isolation in their own eyes and those of society. This is yet another aspect that should be investigated and understood in depth in order to ensure the greatest measure of access and integration for persons with disabilities and the aged, as well as to ensure non-handicapping environments for everyone.

Discussion

Q.: How can disabled persons have access to upper story flats in the absence of elevators?

A.: Disabled or old people are carried up by other people, a solution which encroaches on their independence, but is realistic and economical in the light of actual conditions. However, building heights should be limited to the recommended four stories - which also allows the ability to maintain aural and visual contact with the street and with neighbors.

Q.: What are the possibilities for moving about in the streets for people with reduced mobility?

A.: Many road surfaces are not suitable for wheelchairs. Common means of transport for those not independently mobile are hand-drawn or animal-drawn carts, as well as cycle rickshaws.

Speaking about the relative costs of the proposed approach to building a barrier-free environment, Mr. Biswas suggested that apart from the obvious savings brought about by the use of low-cost materials and their adaptability by unskilled labor, there are advantages at a macro-economic level. Decisions can be made and carried out at the community or household level, rather than by centralized bureaucratic agencies; and investment in the production, installation and maintenance of 'high-tech' gadgetry of a doubtful or inappropriate nature can be avoided.

Reflecting about what he had observed during his short stay in Japan, Mr. Biswas qualified his statements on traditional design. Although he recommends the adaptation and use of traditional building patterns, he said he was reminded once again in Japan of the need to be selective, for not all traditional ways of building are helpful to disabled people. He quoted the very high (up to 60 cm!) thresholds at the entrances to many temples and other old buildings that were built ostensibly to keep evil spirits out.

Door-openings were not only too high below, they were also built too low above, Mr. Biswas reported. Partly adjusted to the height of people of earlier generations, they were also meant to force people to show respect while entering a home by forcing them to bow, according to his informants. "Though it escapes me why respect has to be

constantly shown while moving about in the house, even while entering the toilet", he commented. He also mentioned that he had noticed younger Japanese (not to speak of visitors from abroad) rubbing their heads after entering a room or leaving a train. In his view, this particular traditional pattern can hardly be called an example of a barrier-free environment.

Community Participation in Access Decision Making

Michael J. Fox, Access Australia, Milsons Point, Australia

Background

1972 - 1978

The first major access programs in Australia developed between 1972 and 1978, when Access Committees were formed in most of the eight states and territories in Australia. These committees included people with disabilities, relevant professionals, advocates and representatives of appropriate organizations.

An access strategy was developed based on a system of access linking buildings, transport, public spaces, equipment and communications. The first stage involved initiation and publication of Australian Standard AS1428, "Design Rules for Access by Disabled Persons".

1978 - 1981

The International Year of Disabled Persons (IYDP) corresponded with the introduction of access legislation for major new private and public buildings throughout Australia at federal, state and local government levels. A subsidized taxi system was introduced with government reimbursing 50 per cent of taxi travel costs for people unable to use conventional public transport. City access programs were implemented to enable access systems to be developed, connecting accessible buildings, public spaces and transport.

1981 - 1986

Implementation of the access program has significantly improved physical access to new buildings and facilities throughout Australia. However, there remains a problem of public awareness of the needs and benefits of a more accessible environment. There is a perceived need to strengthen the links between the community and local government, which is the major government level responsible for access to and within the general community.

The Access Australia Awards Program

During Australia's Bicentennial Year, 1988, the Access Australia Awards Program has been implemented to recognize excellence in provision of access facilities and environments throughout Australia. The Access Australia Awards program provides a total of \$500,000 Australian dollars to the twenty local government councils who, in consultation with the community, are creating these excellent and innovative facilities and environments. The awards will be presented in November, 1988. There are a total of approximately 850 local government councils in Australia and 250 applications were

received from large cities to small towns, based on consultation between local government and the community. The award winning projects will be published together with summary details of all award applications as an information base to all local councils and to encourage their ongoing access awareness and programs. The Access Australia Awards Program is considered a practical model for application in all countries as it shows the importance of links between local government and the community together with effective participation of people with disabilities in decision making. The program also shows the importance of promotion and publicity of access to give people with disabilities equal opportunities to participate in and contribute to their community.

The Asia-Pacific Region

From 1980 - 1984, Australia became closely involved with access and related issues in the Asia Pacific Region. The ICTA Sub-Commission Asia Pacific Region was established and directed through ACROD, the Australian Council for Rehabilitation of Disabled.

The first program identified through meetings and discussions between people with disabilities and relevant organizations in the region, was the need to document existing resources in the region, particularly in relation to appropriate technology. Part 1 of the "Asia Pacific Disability Aids & Appliances Handbook" was published in December 1982 and dealt with mobility aids and their availability throughout the region. This publication was widely distributed and is available through ACROD, Canberra.

The second major program involved identifying relevant human resources in the region to promote the interchange of information and ideas. For example, one country may be importing expensive equipment from Europe, whereas an adjacent Asian country may be manufacturing a low-cost item of appropriate technology, which would provide a culturally and socially more relevant solution. The aim of this program was to assist countries in the region to be more aware of contact people, information, equipment etc. readily available in the region. A likely result of this information exchange is that awareness of 'appropriate technology' could result in 'reverse technology' in more developed countries by providing more cost effective and appropriate solutions to local needs.

In 1987, a rehabilitation conference was attended in Chongqing China and a suggested plan of action to implement and monitor appropriate access and equal opportunities for people with disabilities was presented as follows :

- document existing information networks, decision making procedures, codes, legislation, policy etc.
- prepare a plan of action and program for progressive introduction of appropriate access implementation within 'system of access' concept.
- identify critical aspects of 'system of access' requiring action and implement with target programs for each item.
- develop contact between people with disabilities and local government to promote cost effective and community-based appropriate programs.
- implement a public awareness program with emphasis on access and benefits to total community.
- monitor and evaluate all programs continually.

Within these environments and programs the 'system of access' is critical to identify, modify and link the key access components which are primarily buildings, transport and

public spaces.

Conclusions and Recommendations

A more accessible environment enables more people to participate in their community and contribute economically through created employment opportunities.

The exchanges of information, ideas and equipment throughout the region is critically important to minimize nonproductive effort and maximize the efficiency and practicality of programs and activities as they are implemented.

Australia has a well-developed access program and has the potential to continue to provide relevant services and information to the region.

Continual consultation with and between people with disabilities and organizations including those represented at this seminar, can ensure a continual exchange of information and programs to the benefit of people with disabilities in the Asia Pacific Region.

Rural Buildings and Environments for Persons with Disabilities in Developing Countries

V. K. Mathur, Central Building Research Institute, Roorkee, India

Developing countries are far behind in the accessibility of the built environment. But it is the will throughout the world, not only in developing countries, to create an accessible environment.

In developing countries the most important point is to know persons with disabilities. Most of the problems exist because architects, planners and designers are not provided with enough opportunity to know and understand persons with disabilities. Once the problems of persons with disabilities are understood, I believe, then half the battle is won. In India we have a large number of rural as well as highly urbanized areas such as Bombay or Delhi. Many developing countries have this duality of countryside and metropolitan city. Thus the problem must be analyzed from both perspectives.

The situation of persons with disabilities in rural settlements is different from that of disabled persons in urban areas. Village organization and joint family systems provide persons with disabilities with greater security and more assistance within the community. Mobility is not a particular handicap in the performance of tasks carried out in close proximity to the dwelling. However, at the same time certain domestic activities such as open cooking, drainage and open wells result in hazards for persons with disabilities. In addition, lack of modern rehabilitation and health care facilities exacerbate the situation.

In rural settlements simple modifications to living spaces such as construction of fences around open wells, installing screens around kitchens and boundary areas, and construction of wider pathways clear of obstructions can ensure a safer environment. The provision of access to water facilities for personal hygiene also improves the immediate environment of persons with disabilities. It is necessary to integrate the design elements with the needs of persons with disabilities to arrive at acceptable solutions which would

not only meet the requirements adequately but would also enrich the architecture and the proximate rural environment.

The problem of mobility is very difficult and at the same time very essential. Mobility can be broken down into two groups of concern:

- mobility within the environment,
- mobility outside in moving, e.g. from house to street, from streets to other areas encompassing the whole city.

There is also the problem of treatment, training and rehabilitation which depends on, amongst other things, economics, social administration and government policy. Thus, it is important to encourage the development of individuals at a social level as well as government policies and programs and to enforce their implementation by law or an act as we have done in India in the form of the National Building Code and the Indian Bureau of Standards. But the problem is that very little data is available to take to court. In India the basic work was done by the Bureau of Indian Standards to form these guidelines for the disabled persons at the initial stage. But before these guidelines were developed a lot of work was required to systematically analyze the problems from urban areas to rural areas and individual houses.

The problem of accessibility for the individual starts right from the steps into a building. As someone has suggested, it is easier to destroy the atom bomb than to destroy the prejudice. Because there is prejudice toward persons with disabilities, but not equal opportunities for them, the problem must be looked at in a wider perspective, then narrowed down for technical implementation.

A scientific method to tackle the problem, to erode the problem of persons with disabilities, requires standards and designs, but at the same time this approach is specific to the urban situation. However, even in the countryside, where there is little information about nor recognition of persons with disabilities, the environment can be made accessible through very simple solutions and at little expense. It is through the people's will, cooperation and, most importantly, use of local materials and local methods of construction that accessibility to buildings can be achieved.

In speaking of local materials and local construction methods in developing countries we can distinguish two approaches to an existing problem. First, the environment has already been created so what can we do about that? We must improve or provide devices in existing buildings and also create design data for new buildings to come. Looking at the living pattern in most developing countries we find in rural areas houses with very open floor systems while at the same time urban dwellers can not afford a large house. The living patterns of the people, their daily routines, their activities, the number of users and the equipment involved are crucial for our task. In areas with small spaces and compactness for convenience and economy we must look into safety measures for persons with disabilities like fire hazards and risks for accidents. In minimizing the problems and efforts of housekeeping, we must develop and generate designs that require the least maintenance. We should also consider availability, effective space and privacy. With privacy, I do not imply that persons with disabilities should be isolated from society, they should be part of society. I also want to point out that these designs should not be exclusively for persons with disabilities.

Non-Handicapping Environments or Institutions:

The Historic Chance for Developing Countries

Adolf D. Ratzka, Royal Institute of Technology, Stockholm, Sweden

Accessibility for old and disabled people is a relatively new issue in any country whether it is a so-called developed or under-developed country. When it comes to equal rights for people with disabilities all countries on this globe are underdeveloped

In most parts of the world it has always been taken for granted that people with disabilities do not participate in the community on equal terms, do not have the same housing choices, do not use regular transportation systems, do not go to regular kindergartens and schools and do not get the same jobs - if they get a job at all. Thus, in most countries segregation and systemic discrimination of people with disabilities are practiced. Most people would never think of calling it apartheid, since the discrimination of people with disabilities has become such a natural part of our culture that we do not even realize what is done to them.

We have come here today because of our commitment to building non-handicapping environments and to changing our cities and villages into integrated communities where nobody is denied equal opportunities because of a disability. This commitment is clearly stated in the resolutions that our Working Commission adopted at the Prague Seminar. Let me quote a few of these resolutions.

In the first resolution we stated: "We, the participants of the CIB W84 Expert Seminar consisting of both non-disabled and disabled persons, can not accept anything else but the goal of a barrier-free environment and free movement within it for all." We pointed out the need for legal instruments to ensure accessibility in new construction as well as in renovating, upgrading and expanding existing structures. "In the process of drafting, monitoring and enforcing such legislation disabled people and their organizations have to be involved at all levels. Governments shall provide funding for consumer organizations to allow them to build up their expertise in this area." These resolutions are in accordance with the United Nations World Program of Action Concerning Disabled Persons that has been adopted by all member governments.

In resolution number 7 and 8 we stated: "Practicing architects, planners and builders should view accessibility as basic planning requirement and not as limitation." "Instead of using the arguments of diminished esthetic values and high costs as an excuse for non-action, architects, planners and builders should consider accessibility as a basic civil right and ensure its implementation." In Prague, we further noted that developing countries have particular problems. We called attention to the urgent need for the transmission of information between disabled people of different countries and professionals concerned with disability issues.

The last resolution which I want to quote here states: "The W84 Expert Seminar in recognizing the superior quality of living in the community as opposed to an existence in institutions advises that investments in institutions are to be phased out and be replaced by services that allow old and disabled citizens a life in the community with equality and full participation. These services include financial subsidies, counselling and personal assistance in activities of daily life, work and leisure. Services are to be organized in a way that gives the individual consumer the same opportunities in the housing and labor market as the general population."

What implications do the resolutions have for our present seminar? The resolutions

emphasize the need for integrated solutions; that is, rather than building special housing exclusively for the use by a certain group of citizens we have to concentrate our efforts on making all housing accessible to people with disabilities. To the extent that old and disabled people need services such as personal assistance, these services should be provided in such a way as to insure that the individual consumer of such services has the same opportunities in the housing market as the general population. The resolutions make it quite clear that the construction of special residential facilities exclusively aimed at the needs of old and disabled people have to be avoided.

There is a tendency to view disability as a medical problem. As a medical issue the problem lies within the individual and not in society. Solutions consist of attempting to change the individual through medication, surgery, rehabilitation and other treatment. These forms of intervention take place in hospitals and similar institutions in order to get the most use out of existing medical resources. In this medical model, when people experience difficulties with architectural barriers in their daily lives, the response will be to eliminate the problem by moving these individuals into special and segregated facilities rather than by removing obstacles in the community. Locating the cause of the problem within the individual appears, at first sight, to hold the promise of lower costs. If each individual is considered as an isolated case, it will be less costly to move this individual to an institution than to eliminate environmental barriers in society. But in a long-term perspective taking into account generation after generation of an increasing number of older persons, building non-handicapping environments will be a prudent investment.

Another reason for erecting special facilities and institutions is the tendency to define disability as a technical problem. Given this perspective it seems natural to concentrate old and disabled people in residential facilities where buildings, professional staff and technical equipment can be efficiently utilized for their care. I would like to venture a hypothesis on the origin of institutions. In Europe, institutions for mentally and physically disabled persons started to appear during the period of industrialization. One explanation, among others, for this could be that the technological approach and the quest for the efficient use of limited resources also influenced the thinking on what to do with people who could not be profitably integrated into the production process. By lumping disabled people together into asylums and institutions the classical factors of production, land, labor and capital, were expected to be put to more efficient use. Institutions, I suggest, are based on the expectation of economies of scale: the cost of producing goods or services per unit decreases as production in the plant grows. So far my hypothesis.

But humans do not behave like automobiles or broiler chicken. Assembly lines are built on the principle that all units are identical. But humans are inefficient by nature from the viewpoint of modern production technology. Not only do they come in different sizes. Even worse, they differ in personality, taste, social background and innumerable other variables that are extremely difficult to quantify, standardize and to adapt to rational processing techniques. Thus, attempts to achieve economies of scale by putting old and disabled people together are bound to fail, if these people are to be treated as unique, sentient human beings and not as lifeless objects. On the contrary, sufficient scientific evidence exists to point to the dis-economies of institutions in the form of hospitalism, loss of social skills, lack of self confidence and stunted personal growth.

According to my hypothesis, as a developing country embraces industrialization, institutions will be built in an attempt to provide efficient services for disabled people. In the so-called developed countries the institutionalization of old and disabled people is most developed. It is in the countries where institutionalization has advanced farthest that politicians, professionals and, above all, disabled people themselves are now demanding that institutions be phased out and be replaced by community-based services.

With their tremendous needs for construction the developing countries have a unique opportunity of building communities that are accessible to all citizens. If they miss this chance the same way the developed countries did centuries ago, they will also have to repeat the same mistakes and put away generations and generations of old and disabled people into institutions, a solution which is very expensive in terms of human and monetary capital. It is through exchanges such as this Seminar today, we hope, that developing countries can hop over the institutionalization phase and build non-handicapping environments instead.

Questions and Answers

Q.: My question concerns integration in education. In recent years, schools for persons with disabilities have been built and problems exist where disabled youngsters must attend ordinary schools. In Japan, education for persons with disabilities began 30 years ago, especially for physically disabled persons. If a person with sight impairments wants to attend school it must be at a regular school. He can complete his education there, despite the teachers' lack of training in braille. The quality of his education, though, will not be of the same standard as of non-disabled students. This results in them leaving the regular education system and re-entering special school for persons with disabilities. In Sweden, what education is offered to students with visual and hearing impairments?

Also, as for the aging population in our country, there are many old persons who require care above and beyond that which can be provided in homes for the aged. Those with visual disabilities must have special facilities for their needs. Facilities which they themselves are requesting. Thus, regarding your views on integration, what comments do you have on these problems?

A.: As to the first point, solutions will, of course, differ from country to country depending on the education system and available resources. Speaking from the Swedish experience, we have also had special schools, for example, for the visually impaired. Today, the resources that are concentrated there have been freed and are distributed now throughout the entire school system. This also means that disability should be an integral part in regular teachers' training. There has been a tendency to have, within the same city, one or two regular schools that have added resources for special groups such as the visually impaired.

As to the second point, we will have ample opportunity this afternoon to concentrate on this in more detail.

Planning Regulations in Uruguay

Eduardo Alvarez, Susana Cora, Jorge Galindez, Mabel Ubiria
Inter-American Children's Institute, Montevideo, Uruguay

The number of persons throughout the world with some type of permanent disability has been estimated at 10 per cent of the total population. In Uruguay there are no complete and reliable data, but studies indicate that 10 per cent also apply to our population.

This presentation advocates the application of townplanning and building design

regulations to bring about full integration and equality through the elimination of physical barriers.

Up to 1985, Uruguay did not have a comprehensive and coherent set of building norms. In order to change this situation, PLENADI, the National Plenary Committee of Organizations of Disabled Persons, proposed to the Municipality of Montevideo the appointment of a special committee to deal with this subject. This multi-disciplinary committee started to work in March 1985. It is composed of representatives of various municipal divisions such as the Studies and Projects Division, the Works and Services Department, Traffic and Transport as well as the Institute of Design of the School of Architecture of the University of the Republic, the Society of Architects of Uruguay and PLENADI.

The Special Committee prepared the draft of Decree 22463 approved by the Town Council on October 24, 1985. Decree 22463 reads as follows:

Article 1: The construction, enlargement and remodelling of public and private buildings, open to the general public as well as the planning of public streets and parks must be designed such that these facilities are accessible to and can be utilized by persons with disabilities.

Article 2: Already existing facilities, buildings, streets and parks with still a long service life ahead must be gradually adapted to the same purposes as above.

Article 3: Places of work of physically disabled persons must be adapted such that these persons can function to their maximum level of performance.

Article 4: The Municipality of Montevideo, through regulations, shall establish the requirements to be met in each particular case. Also, the municipality will be responsible for the enforcement of these regulations.

Article 5: Public organizations in charge of initiating and implementing townplanning projects must also abide by these regulations where applicable.

Article 6: Housing projects to be undertaken by public or private organizations shall mandatorily include a minimum of 3 per cent of the total number of dwellings which shall be specifically intended for disabled persons such that these units are accessible to and can be used by these persons as homes ensuring the integration of disabled persons into the community.

PLENADI, the National Plenary Committee of Organizations of Disabled Persons, was founded in 1984. Various associations of disabled persons, parent groups and voluntary support groups channel their efforts toward the integration of disabled persons into society in this federation.

Study committees are presently dealing with legal aspects such as the Integral Rehabilitation Bill proposed in 1985 to the Legislative Authority of Uruguay and subsequently submitted to the Labor and Social Security Affairs Commission of the Senate.

In considering research studies undertaken at the international level, developing countries in particular must adjust the findings to their own socio-economic and technological realities.

In the implementation of building norms, coherent criteria will permit a continuous

development with the advice and support of the Special Municipal Committee and the Institute of Design of the School of Architecture of the University of the Republic.

Among the first achievements is Decree 22463. PLENADI in promoting the application of these norms throughout the country and acting as direct advisor, proposes a national approach which is viable, coherent and effective.

Presently, many architectural works are carried out such as pilot projects in barrier-free environments including adaptations in the principal football stadium of Uruguay, the National Airport and bus terminals. Montevideo's main avenue in its busiest section will be remodelled to ensure barrier-free use by disabled persons.

The incorporation of the building norms established in the decree shows very encouraging results. The regulations have been considered in recent competitions for architectural projects. Accessibility measures have been adopted in public buildings. The directives of the decree are taken into account in building projects financed through international loans. In the housing program of the National Mortgage Bank 3 per cent of all produced housing units are accessible to disabled persons.

It is of paramount importance that any measure to improve accessibility in the built environment for persons with disabilities be conceived not as an isolated act or as a problem in itself but be seen within the context of social and urban integration of all members of society. Any such action has to encourage user participation from the very first development stages.

Kobe, A City on the Way to A Barrier-Free Environment

Naoto Tanaka, Development Bureau, Kobe, Japan

I am happy to have this opportunity to speak to you about Kobe. I would like to talk of new developments in the city and forthcoming events such as FESPIC (Far East and South Pacific) Games for persons with disabilities which takes place next year. In anticipation of the great many people, we are attempting to make Kobe an accessible city for all people.

Kobe has developed as an international port city surrounded by beautiful mountains and the sea. Behind the city stands Mt. Roko from which we have removed portions for use in land reclamation along the coast. The new area is about 436 hectares with a bay-related area and a city function area lying inside surrounded by the bay area. It has several international convention centers and hotels making it an international city.

A new man-made island-town called Portopia was built in 1981, developed for the exposition that year. It was a large-scale and successful event, in part due to its transportation access. There is a computer controlled train known as Portliner. It has a barrier-free design using double doors as in elevators.

An arcade connects the station to the shopping centers and bus terminal allowing smooth transport in inclement weather. The path from the station to the exposition site is also covered and a hotel stands nearby. The park includes wheelchair seating in the event place with ramps. A braille guide is available for the visually impaired. We have attempted to make it beautiful and spacious not only for persons with disabilities, the aged and very

young, but for all people. Long after the expo, the center continues to be a multi-purpose facility.

In the shopping center of the inner city the barrier-free design exists everywhere with ramps to accommodate wheelchairs, baby carriages and bicycles. Already existing facilities such as washrooms have been modified for persons with disabilities. Modifications are also being made on the pool and in administrative offices. This remodeling comes under a law requiring this for public buildings though we are trying to have this extended to private places as well. We would like to extend this barrier free design to transportation as well, including bus and train systems. There are two things I desire in barrier-free design:

- a design that not only considers the needs of persons with disabilities but the needs of all people
- a design that makes facilities both integrated and beautiful.

With this we can hope for improved communications and a safe society for all.

Questions and Answers

Q.: Commenting on the ramps, I can not help but notice that instead of having both stairs and ramps, ramps alone might satisfy everybody and it would not be necessary to have both.

A.: There are persons who feel more comfortable using stairs. People with crutches, for example, find stairs easier than ramps. Therefore, in attempting an integrated design we try to use both.

The Situation of Non-Handicapping Environments in Taiwan

Li Chu, National Society of Rehabilitation of the Disabled, Taipei, Taiwan

I am glad to join you at this seminar to collect information for our country's non-handicapping development. We all understand that the provision of a barrier-free environment and transportation system can never become a reality, if all levels of groups in our society refuse an active response to reach the goals of equality as set forth in the United Nations Human Rights Declaration. Unfortunately, authorities in many developing countries, including Taiwan and the People's Republic of China, usually respond by saying that the design features will cost too much and will be used by only a few. In our nation the Law for the Welfare of Persons with Disabilities was only formally promoted in June 1980 after a long struggle by professionals in the field of social education and rehabilitation. This legislation specifies that the living and working conditions of persons with disabilities have to be improved and that public buildings and activity centers should be renovated and equipped with facilities offering accessibility to persons with disabilities including wheelchair users.

In the following I will present the situation in Taiwan and outline the improvements of public facilities for access of persons with disabilities including those temporarily disabled.

Taiwan's present government has supervised and instructed 14 of the 22 counties and cities in the province to improve and revise their public buildings to make them accessible to all. These buildings include community centers, activity centers, official buildings, city halls, parks, art galleries, railway and bus stations. Some walkways have also been paved with special tiles for the visually disabled. Emphasis has been placed on the overall improvement of the environment for better living and working conditions for persons with disabilities.

As for transportation means for persons with disabilities in Taiwan, Article 20 of the National Welfare Law stipulates that a qualifying disabled person shall receive a 50 per cent discount on public and private transportation by water, land or air. Unfortunately, not all those who are physically disabled and fly qualify for the benefit as only the blind receive the discount. At rest and refreshment stops along the national highway there are ramps leading from the parking lots to the washrooms and refreshment areas. This has been brought about through suggestions by many volunteer organizations and associations for persons with disabilities. Many telephone booths on city streets are equipped with braille for the blind.

It is worth mentioning that a Rapid Transit System (RTS) is under construction in Taipei City with facilities for persons with disabilities. It is scheduled for completion in 1992. In its planning, the government had originally decided to build the RTS without facilities for persons with disabilities claiming a saving of over 3.5 billion N.T. dollars - about 120 million U.S. dollars. Persons with disabilities and welfare organizations protested and petitioned against the government's failure to carry out social reforms for persons with disabilities. As a result, the government has since revised its original plan and will include facilities enabling persons with disabilities to use the RTS.

Now, though the international airport, public buildings, activity centers and some parks are built with accessibility design, some new hotels, private enterprises and commercial buildings still lack facilities making them accessible. This is a most unfortunate result of designers and planners disregarding government regulations and pursuing their own style. On a hopeful note, the government has decided to revise and upgrade the present regulations concerning construction and development.

With regard to government housing projects for the general public, as far as I am aware, most of the housing units are not easily accessible to persons with disabilities, the aged, pregnant mothers and similar groups. Here at this seminar, we hope to be provided with information and documentation regarding the laws and provisions for architecture and construction in your countries which can be recommended to the Taiwanese government in its revisions of laws for persons with disabilities.

Transportation for Non-Handicapping Environments

Tetsou Akiyama, Tokyo Metropolitan University, Japan

I would like to begin by presenting an overall view of the transportation system in Japan before exploring the details. Changes to our transportation making it accessible to all have been slow-coming in Japan, though improvements have been made. In railways, for example, a system for persons with disabilities has been initiated and escalators for wheelchair users have been put in. As for bus transit, we have not yet developed anything for use by wheelchair users. The same is true, unfortunately, for paratransit systems.

Compared to other countries, our use of computerized systems is weak, whereas we are further ahead in the use of physical aids such as braille blocks on the streets. But today I would like to explain Japan's plans for progress in transportation for all people.

Classification of Physically Disabled Persons Based upon Mobility and Transport

Existing classifications of disabilities are based on the welfare or medical model. Mobility and transport of persons with disabilities have been given insufficient consideration in these schemes. In the following, a classification consisting of four categories is suggested which considers the aspects of mobility and transport.

- The group requiring vertical transfer, for example, the use of a wheelchair,
- The group requiring equipment and special consideration (handrail, seat designation, etc.) excluding vertical transfer
 - crutch
 - cane
 - limitation in walking without crutch and cane
- The group finding it difficult to obtain visual information
 - blind persons with cane
 - blind persons with guide dog
 - persons with weak sight
- The group finding it difficult to establish communication
 - speech impediments
 - auditory disabilities
 - mental retardation

The History of the Development of Transport Policies

I would like to discuss the development of disability policy and awareness in Japan through three stages: the preparatory stage 1950-1970; the beginning phase from around 1971; and the expansion phase beginning during the International Year of Disabled Persons in 1981. During the first period, the normalization idea was born, though it grew slowly. The first transportation policy was simply a discount system and for the following twenty years no other concessions nor developments were made in regard to persons with disabilities. The normalization idea spread into the second term, the starting period, supporting various policies which were implemented then. Instead of living in institutions, the outside world was opened to persons with disabilities. The Ministry of Health and the JNR took action to normalize the life of persons with disabilities in the real world. During the third stage, the expansion term, the problems of our aging society had become a serious consideration as a result of a change in social attitudes since the first term.

Accessibility Policies and the Railway System

Regarding JNR's policies, in 1952 the discount program was introduced. In 1972, the Ministry of Transportation allowed persons using wheelchairs and guide dogs onto trains. In 1981, the Ministry submitted a policy for long-term transport for the 'poor group', though this label has been ill-conceived I feel. In 1983, the JNR introduced the use of

braille blocks for the blind. Technical advances paralleled these measures. In 1972, the renovation of buildings to accommodate wheelchair users began with Sendai Station. In 1973, a visually disabled person fell from the platform of a train station which motivated the JNR to set up two stations for the visually impaired. The now popular Silver Seat system was introduced in 1973 and in 1975 wheelchair seating was introduced. Elevators were installed just before the International Year of Disabled Persons in 1981. In 1983, station names were set up for the visually handicapped as a guide system instead of braille blocks. The escalator with wheelchair steps was introduced in the Yokohama City subway though it turned out to be not very popular. Stations were renovated according to guidelines set up in Tokyo.

Retrofitting the Japan National Railway (JNR)

Equipment for vertical transportation consists mainly of elevators which are few in numbers. Controversy surrounds the decision of whether the existing transportation system should be adapted or a new system be created. The problems are finding criteria for the decision of which stations should be retrofitted first, which agency should pay for it, and which technical solutions should be used.

Special Transport Services

Regarding special paratransit systems I would like to talk about door-to-door service. For this service vehicles have been donated by a television network that has supplied about 100-200 a year. However, in institutions that have not received funds for covering the operating costs, 80 per cent of the vehicles are not used. This is the case in privately operated paratransit systems which receive no government funds.

Questions and Answers

Q.: I had the pleasure of riding the Shinkansen (bullet train) and was amazed by its ease. Apart from the step at the entrance of the train and the fact that I had to sit with my wheelchair in a special tiny compartment and could not join my fellow travellers, I felt it was a very comfortable ride. In Sweden, definitely, we do not have such trains. Mr. Akiyama noted that the principle of normalization has been around since 1950. This principle was begun in the Scandinavian countries, including Sweden. So, as you can see, the motherland of normalization has not produced accessible trains which brings me to the point that in only a few places do we have transportation we can use. In most places, like the railway stations here, we are dependent on assistance and as your slides have shown it is assumed that we always have to have assistance. Now, normalization as a principle has not been producing the equalization of opportunities that we demand. I propose that instead of normalizaion, we propagate another concept, the concept of self-determinaion. I would like to enjoy the same ease of transport as others without having to ask for special assistance. We do not want charity, for as the Japanese railway demonstrates, for other people it does not operate on charity either. We demand equal opportunities.

Q.: Regarding special transportation systems, some countries, including Australia, have modified the taxis and they are operated by the main taxi company, avoiding the problem of 80 per cent usage as in Japan.

A.: In some places modified taxis are used. These cabs are cheaper to run than special paratransit services which are operated mainly by charity organizations or municipal

governments. I know that in London some taxi companies have started with accessible cabs for persons with disabilities. Our Japanese taxis are not as large as English taxis. Therefore we need a new vehicle type for that.

Q.: You mentioned that there are escalators exclusively for persons with disabilities. I am wondering why this is when others might benefit from these solutions too, such as parents with baby carriages or tourists with heavy baggage.

A.: The escalator was installed for wheelchair users. However, in order to use it you must call the station personnel and it takes time, especially during peak periods. For example, in Yokohama Station there are five levels and it takes five minutes to get through one level. Therefore, in order to use the escalator in Japan, you must have somebody to help you because safety regulations are severe. This is one problem hampering development in Japan.

Q.: I have noticed many busy intersections in Tokyo and I was wondering how the blind negotiate these crossings.

A.: At the intersections in Japan there is music or special tunes that signify a green light. Also, there are braille blocks at each crossing.

Housing Programs for Old Persons in Rural Communities of Japan

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Housing Conditions of Old Persons in Rural Communities

In rural communities of Japan, almost all old persons live in extensive but old houses of their own. Many of them have been living there from the time they were born or married and have been deeply attached to the community, so they hope to live there until they die. Figure 1 shows an example of a house where an old couple lives in a rural community; the mountain district in Hiroshima Prefecture. There is a heavy snowfall and a lack of good communication facilities. The couple can not drive a car and it takes two hours on foot from their house to the nearest bus stop. They own a wooden house which is very depreciated having been built in 1942. The total space of this main house is about 100 m². The approach of this house is not very accessible as the high threshold is rather hard to cross. There is a kitchen in the unfloored part of the main house. Between the heights of the floored and the unfloored parts there is about 50 centimeters difference and the toilet and the bathroom are apart from the main house.

Housing Programs for the Elderly in Rural Communities

From 1970, housing programs for old persons began in some prefectures which have some regions with heavy snowfall and lack of good communication facilities (Figure 2). These programs are modifications of public housing or old-people's homes and they are mainly managed by the section of welfare in the municipality. The representative programs are "Independent Housing for the Single Elderly Person", "Inexpensive

Dormitories for Old Persons" in Hokkaido Prefecture and "Small-Scale Old People's Homes" in Hiroshima Prefecture.

"Independent Housing for The Single Senior Citizen" in Hokkaido Prefecture

As single persons had not been able to live in the public housing until the amendment of Public Housing Act in 1980, in Hokkaido Prefecture, the "Independent Housing for The Single Senior Citizen" program was begun in 1970. (Figure 1,2,3, Table 1,2) Half the number of the units under the program were located near other facilities for old persons (Table 1). The facility is usually a one-storied apartment house with 6-12 units. The total floor space of a private unit is about 22.9 m² on the average.

Table 1 Facilities adjacent to housing for old persons

	Independent housing (16)	dormitory (22)	old people's home (8)
community center for old persons	5	4	0
nursing home	3	0	1

Table 2 Service staff (multiple answers)

	none	caretaker	housemother social worker	not clear	neighbor	a resident visiting live-in
independent housing (16)	2	5	2	7	2	0
dormitory (24)	0	0	0	1	22	2
old people's home (8)	0	1	1	8	0	0

There is also a private kitchen, toilet and doorway in the majority of these programs (Figure 3,4). In addition, as shown in Figure 4, there are provisions for some security and convenience in old persons's daily life with this program. But in respect to supporting services for the old residents' independent living, this program is the lowest level of the three (Table 2).

"Inexpensive Dormitory for Old Persons" in Hokkaido Prefecture

This program is intended for senior citizens who do not want to enter the old people's home established in the other municipality and are on the independent level but not able to cook their own meals. Even now in Japan, an old people's home whose capacity is below 50, can not be established under the Old People's Welfare Act. Thus, in some municipalities with a smaller population, this program has been suitably applied. This program began in 1973. The dormitory is usually a one-storied apartment house with six units. The total floor space of a private unit is about 14.0 m² on the average with the use

of a common toilet and kitchen (Figure 3). An example of how this program is to be used by elderly is shown in Figure 5. In the "Inexpensive Dormitory for Old Persons" programs, live-in helpers are arranged who provide meals and emergency measures for the residents (Table 2 and Figure 4,5,6)

"Small Scale Old People's Home" in Hiroshima Prefecture

This program is intended for single senior citizens who live in regions with heavy snowfall or lack of good communication facilities, to share the housing located conveniently at least in winter. This program began in 1978 and has been extended to Shimane prefecture. It offers a one-storied apartment house with 6 units. The total floor space of a private unit is about 21.7 m². on the average, with private kitchen and toilet (Figure 3,6). In this program, there is no meal service, but the residents can receive social workers' visiting services (Table 2).

Conclusion

Housing programs for old persons in rural communities of Japan have been inaugurated by some municipalities since 1970. The architectural or planning features of these representative programs are as follows. In a private unit, the floor space is very small and in some cases without private kitchen and toilet. Accessibility is still an unsolved problem. On the other hand, live-in housemothers, social worker's visiting service, meal service and other services in the housing programs assist the residents' independent living.

Independent Living Housing Projects for Physically Disabled Persons in Japan: Housing with Attendant Care

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Introduction Housing protects humans from the elements and allows for such activities as sleeping, resting, bathing, excretion, eating, dressing which are indispensable for living and provides a place for daily life. Housing ensures one's privacy and serves as a foundation to form personality and character. It serves as a place to raise a family and is a basis of society, for it facilitates human relations. Thus, housing protects life and functions as an important basis for living, family, society and culture.

What are the housing conditions of persons with disabilities? In 1959, the Law for the Welfare of Physically Disabled Persons was enacted which favored social welfare institutions rather than community housing. In 1961, the system of Family Rehabilitation Loans was adopted. In 1967, by the amendment of the Public Housing Act, special housing for physically disabled persons was legislated and the foundation of so-called "wheelchair housing" was laid. But this type of housing accepts only disabled persons who have acquired ADL (activities of daily living) independence or have a family which provides these services for them. We had to wait until 1980 for the single disabled person to enter public housing, when the Public Housing Act was amended. However, there has been no change in the eligibility of tenants who still must be capable of ADL. The policy of the administrative agencies applies even today stating "a single disabled person who

needs care all the time" can not be a candidate of public housing and has to live in a social welfare institution. Therefore persons with disabilities, especially with extensive disabilities, are forced to enter an institution or live under family protection. To cope with this severe reality a new type of housing which disabled persons themselves created and enforced has been realized, that is "Housing with Attendant Care for Disabled Persons". This type of housing "enables disabled persons to live in the community as ordinary citizens and to overcome many handicaps that they encounter".

The History of "Housing with Attendant Care for Disabled Persons" There is a long history of struggle for "Housing with Attendant Care for Disabled Persons". Meeting the demand of disabled persons' organizations centered on Tokyo Aoi-shiba. The Tokyo Metropolitan Government held the first study meeting on "Housing with Attendant Care" on July 19th, 1976 and issued the "Plan of Establishing Housing with Attendant Care". In July of 1981, the Tokyo Government founded Tokyo Metropolitan Hachiohji Independent Living Home of Tokyo Colony, Social Welfare Juridical Person. This home is the very first "Housing with Attendant Care" project established by the public and run by a private organization.

In Yokohama City, the "Association for Supporting Disabled People at Home of Yokohama City" established an "Examination Committee on Group Homes" in September 1983 and issued their report in April 1984. Prior to the formulation of a system by Yokohama City, the group home "Fureai Seikatsu no Le" was founded in November 1984. The report "Disabled Persons' Group Home Provisions of Yokohama City" was presented in August 1985 and "Fureai Seikatsu no Ie" was adopted as an experimental project in October the same year. In Kanagawa Prefecture the Examination Committee on "Fundamental Problems in Housing with Attendant Care" was started and under the interim report of the Committee "Housing with Attendant Care" projects were started in Hiratsuka City, Fujisawa City and Sagami-hara City as experimental projects in 1986.

In Hokkaido Prefecture the disability group, Sapporo Ichigo Kai, had tried experimental housing for independent living in 1978 and requested the administration to build "Housing with Attendant Care" based on the belief that persons with disabilities can live independently in the community. In 1985, the government of Hokkaido issued the report "Concerning the Promotion of Disabled Persons' Living Independence" and as a consequence of the report, "Hokkaido Municipal Housing for Severely Physically Disabled Persons" was founded. It is the first "Housing with Attendant Care" special purpose housing project in the Second Class Public Housing Program and is considered a model project.

In addition to the above projects, there are various practices for "Housing with Attendant Care", for example, building living quarters next to a sheltered workshop (Hinraku-ryo Nagasaki Prefecture 1987), building public housing within the site of social welfare institution (Iwamisawa City, Hokkaido, Public Housing for Households with Severely Physically Disabled Persons 1977), a training center where disabled people acquire independent living skills (Life Training Center, Yamaguchi Prefecture 1975), transitional apartments and a guesthouse with attendant care. In addition, there are many projects where housing is built or modified adapted to disabled persons. There are also projects under way to establish care systems for disabled and old persons in the community.

Case Studies of "Housing with Attendant Care for Disabled Persons"

The following are actual examples of "Housing with Attendant Care for Disabled

Persons". **Significance and Limitations of "Housing with Attendant Care"** Having overcome various difficulties through trial and error, "Housing with Attendant Care for Disabled Persons" has been continued as follows:

- The purpose of the scheme is to enable disabled persons to lead an ordinary life in the community apart from their parents. Through that experience, persons with disabilities acquire independent living skills.
- The concept of disabled persons living through their own will and choice can be applied to existing social welfare institutions offering a possibility to change institutions as a place for living.
- The establishment of services such as health care, community-based personal assistance, transportation and income supplements to enable disabled person to live independently will potentially change the present community into a more democratic one by integrating persons with disabilities.

Existing "Housing with Attendant Care" projects encounter various obstacles.

- Because of their weak financial basis some "Housing with Attendant Care" projects have not secured enough living space which makes privacy difficult.
- The weak financial basis also precludes personal assistance in sufficient quantity. In this way, occupants have to rely on volunteers. Their daily life is always threatened and they have to lower their quality of life.
- Housing design is not well adapted to the needs of persons with disability causing daily inconveniences.
- Since there are no training courses in the existing rehabilitation system to teach independent living skills to people already living in the community, "Housing with Attendant Care" has to take over that role. Originally, "Housing with Attendant Care" was a place for living but now it also has to be a place for training. Since projects are notoriously understaffed, training tends to be insufficient.

"Housing with Attendant Care" is not our ultimate goal, only one of the choices. Our aims are:

- to insure that the independent living housing projects that are being built are designed with good consideration of the needs of disabled persons.
- to establish community-based personal assistance schemes which take into account the various needs of disabled persons.
- to establish training courses for the acquisition of independent living skills in order to facilitate living in the community.
- to provide income security which is the foundation to leading a life as an ordinary citizen.
- to establish various independent living support systems such as health care, transportation and independent living counselling.

"Housing with Attendant Care" is the first important step to establish these comprehensive systems.

New Trends in Public Housing Complexes for Old and Disabled Persons in the Community

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I would like to present a few pilot projects in Japan's public housing complexes. Japan is facing a rapidly aging population structure. During the last decade many social and housing policies for old and disabled persons have been implemented by the central and local governments to cope with this increasing population group. However, some programs in public housing development have not always been successful due to lack of coordination in integrating both special housing and supportive services at a community level. Therefore, a new housing policy is expected that puts more emphasis on the community care concept introduced by Scandinavian and British housing policies.

Segregation is slowly becoming integration and conventional institutional care is being turned into community based services. Figure 1 illustrates the transition. This concept encourages old and disabled people to live independently in the community as long as possible. The recognition of the importance of supporting housing with a service network has brought us new trends in the provision of living environments for old and disabled persons at the neighborhood level. In the following, leading examples to coordinate public housing and supportive service by the cities of Itami and Kobe will be introduced and discussed.

The Itami City Public Housing and Welfare Area Figure 2 shows the site plan of this project. The site of the Itami City project is about two hectares and located in the existing residential community close to the public nursery and elementary school. It is also adjacent to various community facilities and public housing. There are new projects for public housing consisting of three-storey buildings where the first and second floors are designated for senior citizens and the third floor is for multi-family units. Also, across the river is a half-way nursing home, a senior citizen center and a medical clinic. Some of these projects under construction will be built this year and next year. Since this is a local government low-rise project, the budget is too small to allow for elevators. Buildings will be connected with pedestrian walkways and ramps.

On the west side of the creek there are, again, units for old persons on the first and second floors and family units on the third floor. The 16 specialized units for old persons on the first and second floor are integrated with the 8 multi-family units on the third floor with ramps within the building. (Figure 3) In the units there are recessed bathtubs for easy access, hand rails, sliding doors, an emergency alarm system and floors without the traditional Japanese split level. Supportive services for senior citizens such as home help, home nursing and 24 hour emergency calls are available.

Persons needing extensive assistance can live in the two-storey half-way nursing home which is under construction. It is located near a hospital, a nursing home and residential housing. The facility is intended for persons who require intermediate nursing care on a short term basis and are expected to return to their homes with supportive rehabilitation services and in-home support services. (Figure 4) The nursing home will also include a day care center. From here home helpers will be sent to persons requiring these services for living independently in their homes. On the first floor of the nursing home there is a rehabilitation area with special bathing equipment. On the second floor there are about 14 rooms. Each room has four beds providing space for altogether about 50 people who can live in the half-way nursing home.

There will also be a three-storey senior citizens' building of post-modern design, with construction due to begin this year. It is intended as a base for old persons and will contain various leisure and cultural activities. Nearby a placement center is planned for

employment opportunities. On the first floor of the senior citizen center there will be a restaurant and lounge with various types of social activities. Many of the first floor rooms are designed for social interaction in the community and for cross-generation contact.

Kobe City Public Housing The next project I would like to describe is a public housing complex in Kobe City. Kobe has developed a model program in public housing projects which offers community-based services to cope with the aging society. The Uozaki Housing Project is located in an urban industrial area. The population of old persons here is higher than in any other part of the city. The project is considered as a leading example for an urban renewal project which has not severed social relationships in the neighborhood but has, in fact, strengthened them. Figure 5 shows the Uozaki Housing site plan.

In the complex there will be a meeting center that is intended to promote community care in a school district. (Figure 6) The facility will serve not only residents but also visitors from the neighborhood. It has a reasonable capacity as a community welfare center for volunteer support services such as meal delivery and home health. There will be 16 specialized units out of a total of 56 housing units. They are for old and disabled persons. In the units the living room can be extended to a tatami-mat room which may be used for social activities such as communal dining. Throughout the complex barrier-free design has been employed.

Conclusion Although these projects have just started in Japan, they are expected to promote public awareness and community welfare. These residential units together with the community-based facilities and supportive services can make independent or semi-dependent living in the community possible.

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_____, Happy Town Planning (Shiawase no machizuhuri), Kobe City, Welfare Department, 1985.

Questions and Answers

Q.: So far this afternoon we have seen examples of projects for housing exclusively for the old and disabled population. My question is, what are the obstacles in Japan to building truly integrated housing that is accessible to all regardless of whether they are disabled or not? What are the institutional, financial or other obstacles to truly integrated housing?

A.: In public housing, the budget is too limited to build specialized and accessible units. It is quite difficult to make all housing units totally accessible to old and disabled persons. So basically, the projects we are showing are designed for old and disabled persons only on the first and perhaps second floor.

Q.: In Sweden, we have had building laws that stipulate accessibility in all regular multi-family housing since 1977. For example, my wife and I live in a regular apartment in a regular building without any special facilities except for electric door openers that have been added afterwards. Studies have shown that the additional expense as a result of the law in 1977 that stipulated the inclusion of elevators, etc. in the entire production of

new multi-family housing was less than 1 per cent over what ordinary housing without these accessibility features would have cost.

Housing Old Persons: Past, Present and Future Policy Development by Japan's Ministry of Construction

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Introduction

As a key government organization, the Ministry of Construction has tried to implement various policy measures in promoting the supply of dwelling units that are suited to the needs of old persons. The measures include construction of public housing through local governments and the HUDC (Housing and Urban Development Corporation). Some of the measures date back as early as 1964, when general design guidelines for purpose-built units for old persons were issued. Several other guidelines followed.

New Policy Trends for Housing Old Persons

In 1985, the Advisory Council on Housing and Land Policy compiled its report "Basic Policy on Housing and Housing Lots in the Changing Society" within which measures to cope with housing problems in the aging society were included. The report emphasized that the needs of old persons in maintaining their life style should be met by the following:

- larger dwelling units to enable living with children's family,
- provision of paired units and neighborhood units,
- provision of specially designed housing through the public and private sector for old persons who do not live with their children,
- maximization of senior citizens' opportunities for social and cultural activities through proper design of housing areas and the provision of necessary facilities within easy reach,
- development and application of design guidelines for senior citizens' dwellings that compensate the decreasing abilities of old persons,
- promotion of housing for persons with disabilities.

After the report was presented, the Ministry started a policy implementation called "Housing Plan for Senior Citizens in The Local Regions" whereby each local government will establish its plan for housing old persons in its regional context (social, cultural, economical, demographic).

Another policy measure are the so-called "Silver Housing Projects" which are planned in cooperation with the welfare department of local governments. This program was originally intended as a joint policy implementation with the Ministry of Health and Welfare. The program aims at supporting independent old persons, physically by design and socially by a care-taker, a so-called "life support adviser".

The two programs are new trends toward a more comprehensive policy on housing senior citizens, because previous measures were restricted to supplying housing units.

The third measure is the implementation of the "Five-Year Development Project of Housing for The Aging Society" by the Building Research Institute which started in April 1987. The project aims at the establishment of design guidelines for dwellings, urban environment, housing schemes, etc. It is also designed to propose possible policy measures related to solutions of the problem. One possible goal is reported elsewhere.

Measures for Housing Old Persons: Historical Development and Present Status

Currently implemented policy measures for housing senior citizens are summarized in Table 1. The following is a brief explanation of these main measures .

Table 1 Current Policy Measures for Housing Old Persons.

	Independent	Living with family	Living next door
Public housing	Special purpose-built units Special units for independent dwellers	Specially designed dwelling units Larger dwelling units	Paired units
HUDC housing	Priority allotment Movement to more suitable units	Priority allotment Larger dwelling units	(Paired units)
HLC financial	Preferential interest rates Larger loans	Preferential interest rates	Preferential interest rates

Public Housing by Local Governments

In 1964, the Ministry of Construction issued a memorandum "Public Housing Units for Old Persons" which emphasized the following points:

- site selection in order to assist the life style of old persons,
- geographical and social integration of housing for senior citizens with other households,
- bungalows or ground floor apartments as dwellings,
- design details adapted to the needs of old persons,
- inclusion of senior citizens in the use of all facilities.

In 1969, paired apartment units were introduced to enable old persons and their children's families to live next door to each other. In 1975, construction of larger dwelling units was started to enable old persons to live with their children's families in the same unit. The size limitations for public housing units were eased in 1980 for multi-family use. Some examples of presently available housing options for senior citizens are listed in Figure. 1 to 3.

A typical plan of dwelling units for old persons living with their children's family is given in Figure 1. They differ from ordinary units in that the room for the old parent(s) has a smaller kitchen sink and a separate entrance, since the unit is situated on the ground floor. However, there is only one bathroom and toilet.

An example of paired units is provided in Figure 2. The smaller unit is for senior citizens. A standard unit for an ordinary family is located next door. Presently the two units are not necessarily situated side by side. They are sometimes located on different floors.

An example of a recent development in line with the "Silver Housing Project" is now being constructed in Kobe City. Containing a special nursing home and a day care center in the lower floors, the building has 31 dwelling units for independent old persons and a housing unit for the so-called "life support adviser". The floor area of the unit for a single old person is 35 m² with two rooms and a kitchen, the unit for a couple is 48 m² with two rooms and a dining-kitchen. The "life support adviser" will check periodically the safety and health of the senior citizens, help in case of need, act as a consultant of daily living and assist them to live a better life. The facilities and services provided by the day care center such as meal preparation, bathing, rehabilitation and by the special nursing home (for short stays) are easily accessible.

An additional example is provided by another public housing scheme in Kobe City. The aim of this scheme is to establish a "happy town to live in" and various design features for the benefit of old persons have been incorporated in the dwelling units as shown in Figure 3. These include low, apron-height bathtub; grab bars for toilet and bath; no split level between tatami-matted room, dining kitchen and corridor; and emergency-call bell. Height differences are eliminated and ramps are used around buildings. The assembly rooms in the housing complex are specially designed.

A third example is called "Silver-Pia Project" provided by the Tokyo Metropolitan Government. This scheme is very similar to "Silver Housing" projects. Figs. 4 and 5 show the plan of the dwelling units, the former for a single senior citizen, the latter for a couple. Various design considerations are also included in the units. Some of the specific features are indicated in the plan.

HUDC (Housing and Urban Development Corporation) Housing In 1972, the HUDC (at that time the Japan Housing Corporation) started to provide "paired units" and a priority allotment of these units to families with old or disabled persons. The "paired units", however, were unpopular because of higher rental costs, stricter contract terms and potential difficulties when moving out after the death of the old family member(s). The scheme was therefore abandoned in 1974.

Since 1985, HUDC has tried to place old persons and their children's families in the same apartment complex as a way of supporting life in the neighborhood. Specially designed dwelling units for seniors and persons with disabilities are also being constructed as well as larger units that allow the old and their children's family to live together in the same units. The following design considerations are to facilitate better living conditions for old persons:

- hand rails for stairs in the hallways leading to the apartment,
- ramps, shallower stairs and curb cuts,
- elimination of stairs on route from street to apartment

Current options for housing senior citizens through HUDC Housing can be divided into three basic categories:

- Senior citizens and the children's family live in the same unit.
- They live next door.
- They live in the neighborhood.

Figure 6 shows an example of a dwelling unit for a family living with their old parents. In addition to a room, a kitchen and a toilet separately provided for the seniors, several other design alterations are made: widened doors, ramps at entrance and terrace, grab bars in toilet, washroom and bath; lowered bathtub; internal communication telephone; emergency call bell in the bathroom; special heating in the toilet.

Figure 7 shows paired dwelling units. They are connected by a fire resistant steel door in the wall. The way the door is used defines the relationship between the two families: they can live completely separate or can live together. Design considerations are the same as in the previous example. In addition, water, gas and electricity meters are independently installed.

A recent development is the installation of home security systems in dwelling units for senior citizens which are connected to the children's unit. As for living in the neighborhood, the units for senior citizens are 48 m² in width, accessible by elevator, with provisions for larger bathtubs, grab bars in bath and toilet, heating and hot water supply and no split-floor levels.

Renovation measures for existing rental units (on the ground floor in particular) include: improvement of kitchen; improvement of bath (lessening height differences, provision of grab bars); improvement of toilet (heated seat, grab bars); and installing internal communication phones.

Concluding Remarks: Future Needs The design of ordinary dwelling units poses a problem, because old persons can not be excluded as possible tenants of such units. As tenants get older, new needs arise. In the future it is unlikely that the Japanese economy will be as prosperous as it is now. This means that we have to start to prepare for the future immediately. One possible solution would be an adjustable dwelling unit which can easily be renovated according to the changing needs as the dwellers grow older and develop different and /or additional requirements on detailed design in and around dwellings . This subject is also being investigated in our "Five-Year Project on Housing for The Aging Society". The result will be design guidelines which will be applicable as minimum design standards to private sector as well as public sector housing. The guidelines are anticipated to be used in the loan conditions of the Japan Housing Loan Corporation. Its loan schemes have been quite effective in upgrading the quality of Japanese dwellings and will continue to be so as our aging population increases.

Feasibility Study of The "Care Housing System" for Southeast Asian Countries

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During the years 1980 to 1985 the authors developed the "Care Housing System" project for MITI. In 1988, we conducted a preliminary survey of Thailand, Indonesia and the Philippines for the Housing Authority and Standard Association and National Institute on Human Settlements, Japan. On the basis of this study we discuss the feasibility of introducing the "Care Housing System" in the developing countries of Southeast Asia.

The Housing Situation in the Developing Countries of Southeast Asia

The housing problems in Southeast Asia are related to poor economic conditions and high urban population concentrations. In rural areas there are poor housing conditions and an insufficient supply of energy resources, especially electricity.

Southeast Asian governments have, for the most part, recognized the need for giving priority to constructing low-cost housing for low income groups. Their main policies, however, have been directed toward improving their countries' economies through, for example, the promotion of industry and the improvement of basic public infrastructure - roads, sewers and so forth. For this reason, not much effort is presently made to supply low-cost housing.

There are three types of projects to solve housing problems in Southeast Asian countries. These projects are in the areas of social development, design development and technological development.

In the first type, housing projects are considered from the viewpoint of their social and economic value. In such projects, the living environment is improved by, for example, slum improvement, and loan consolidation programs.

The second type project focuses on the development of planning and design technology for low income housing. This involves low-cost housing design using materials and components made with existing technologies. The third type centers on the technology for producing low-cost housing with newly developed components and equipment using, for example, agricultural scrap materials and local technology for products and development of new technology for housing. In this report, we consider the feasibility of a "Care Housing System" in Southeast Asian countries from the viewpoints of technological development and an aging population structure.

The Effects of An Aging Population on Housing in Southeast Asia

Basically, the quality of housing will be determined by the values and life-style of the people in each country. While there are particular conditions in each country which affect housing, the problem of aging is a problem facing every country.

The following factors must be considered in relation to the aging population:

- size of the population
- speed of aging
- average life span
- ratio of males to females in the aging population
- number of households with senior citizens

Most Southeast Asian countries will have an aged population by 2025, especially in Singapore where the percentage of the aged in the population is projected at 17.9 per cent. In Indonesia, the absolute number of senior citizens will be about 23 million.

The governments of Southeast Asian countries have not yet considered the impact of these developments on housing. Since they must address the more general problem of housing shortage, it is difficult for them to think about the special problem of housing the

aged. But in the near future Southeast Asian governments will have to consider the special housing needs of their aging populaion.

Aims of Housing Development in Relation to The Aging Population in Southeast Asian Countries

Usually, housing is affected by location, natural features and historical circumstances. The quality of housing in social development is different in each of the Southeast Asian countries. Generally, housing is built of resources produced in each country. Therefore, housing is related to traditional and cultural factors and affects a country's life-style. Even if life-styles differ, the needs of caring for the aged will be common to all of the people.

Technological development for these needs in the housing component will be accepted because of the small resulting changes in life-style. I think in this respect international cooperation for the development of a "Care Housing System" will be possible.

The Possibility of Using A "Care Housing System" for Aged and Disabled Citizens As Models for Southeast Asian Countries

In Japan a "Care Housing System" was developed as part of the New Housing System Development Project conducted by the Ministry of International Trade and Industry (MITI). The project's aim was to improve the quality of life of aged and disabled citizens.

Japan's aging population differs from aging societies of other countries in two important ways:

- the rapid speed of aging and
- the increasing absolute number of old persons (31.7 million projected by 2020)

For these reasons an industrial system of production was considered appropriate. In light of the nature of Japan's aging population, housing for the aged and disabled was considered to be a general problem rather than a special one. It was necessary, then, to design general purpose housing components to be used by people of any age or disability. For this reason, we should be able to consider the possibility of applying the results to the housing problem in Southeast Asian countries.

In 1980, a survey was conducted as part of the project.

In 1981, a working group was established and the project's concept design was developed.

In 1982, experimental design of the housing system and experimental production of components were developed.

In 1983, experimental construction of the housing system was completed.

In 1984, an evaluation of the housing system and its components and a second experimental production of components were developed.

In 1985, the "Care Housing System" was given a final evaluation and the total concept of the "Care Housing System" was established.

In this project the components of a "Care Housing System" were classified as follows:

- Level 1: Housing constructed for non-disabled people
- Level 2: Housing accessible for aged and disabled citizens
- Level 3: Housing for wheelchair users
- Level 4: Housing for severely disabled and bed-bound persons

According to this classification, the housing components for senior citizens and persons with disabilities were researched and developed as follows:

- A. Elevator system for level 2 and/or 3
- B. Bathroom (tub and shower) unit for level 2 and/or 3
- C. Sanitary (sink and toilet) unit for level 2 and/or 3
- D Entrance unit for level 2 and/or 3
- E Kitchen unit for level 2 and/or 3
- F Hot water supply controller for level 2 and/or 3
- G Kitchen service cart for living room unit and bedroom unit for level 4
- H Movable bath unit for living room unit and bedroom unit for level 4
- I Transfer system for level 4
- J Living room unit and bedroom unit for level 4
- K Environmental control system and information control system for level 4
- L Care housing prototype by itself and with assembled component units

These components were designed to be reassembled for use in rental and lease systems.

If these components for a "Care Housing System" are to be useful for other countries, it is important to determine whether or not the conditions of the system as presently developed are appropriate. For this reason we have begun to check the plans of housing designs in Southeast Asian countries with the specifications of the project's components in mind. Our preliminary survey shows that low-cost housing has a minimum level floor space for a person using a wheelchair. This result indicates that this type of housing is accessible for old persons and disabled citizens.

Conclusion

In this report we discussed the possibility of introducing a "Care Housing System" to the developing countries of Southeast Asia. We found that standard housing in these countries had sufficient space for a person to move around in a wheelchair.

At this point, we believe that the specifications of the "Care Housing system" will become a common base in the development of housing components. In the future, open systems for distributing standardized housing components in Southeast Asian countries will be an important factor. In order to begin such a system, work on modular and performance coordination must be developed, possibly under the auspices of an international organization.

Questions and Answers

Q.: I would like to know the average minimum space requirement for persons using a wheelchair. Are there some figures for this in your survey?

A.: We did not make a survey or check on how much space is required for moving around in a wheelchair.

Q.: My question is whether these low-cost houses are accessible all over or just in part and my second question is what range of costs are we talking about in constructing these houses and thirdly, are they constructed only from local materials or are imported materials also needed?

A.: As to your third question regarding local materials, for example, in the Philippines local materials are used but when you use the word local there are many meanings, differing from country to country. When I say local, I mean they are produced in each country without being imported.

Regarding costs, I think, we must consider the income of people in each country and see costs in relation to that income. What we investigated is referred to as low-cost housing. But the people of the country have told us that the houses are quite expensive and not all of them could afford those houses. 30 per cent of the Southeast Asian people live in slums. therefore, we can not easily define who are the low-cost income people. In the present context, the term "low-cost housing" is used for publicly subsidized housing.

In the field of barrier-free design, especially in housing, we must recognize that there are two types of barriers: absolute barriers and relative barriers. If we want every house and every dwelling to be accessible, then this can only be achieved through a program which guarantees the elimination of all absolute barriers. There are not many absolute barriers but those few are important. Quantity production diminishes costs. The building industry will find methods and solutions to implement these features in every building.

Low-Cost Rural Housing

Minakshi Jain, Ahmedabad, India

Background

We have just finished documenting the rural vernacular architecture of the western arid region of India. This area includes the Bikaner, Jaisalmer, Barmer and North Gujarat Region. Our emphasis is on low-income houses built in rural areas and small cities. Architecturally, we are examining the forces that have worked on these particular forms. Climate, culture, local materials, age-old housing forms, approachable distances from larger urban area and the behavioral pattern of people are the guiding parameters for these habitats.

The forms of architecture we found are basically very adaptive. The houses we documented are made with organic materials like mud and stone. In rural areas these are single storey houses. Because they are single storey houses, they do not require any mechanical device to make them non-handicapping. The addition of few ramps for any change in level can be easily done in mud or stone both being good materials in their compressive strength. Various other kinds of adjustments in the physical environment are possible. The toilet, for example, can be placed nearer to the house. There are also various alternatives available for toilet facilities.

The idea of making the environment non-handicapping is new for this region. The villages here do not have motorable roads, electricity or tap water. At time, women have to walk two hours for fetching potable water. Any sophistication for making the environment non-handicapping may not be viable. Solutions have to be simple and very direct.

In the western arid region of rural India the real issue is firstly accessibility to primary health centers and secondly to afford the basic medical care. These are basic concerns of utmost importance.

On the other hand, the human approach can best work here in achieving non-handicapping environments. The few disabled persons in a village become the responsibility of the whole village. Everybody will help out him or her in some way or other. Food is provided and he or she can do work that is possible for them. This attitude, at one time, even prevailed in urban areas.

Since the house types found in this region are very adaptive to the needs of persons with disabilities, the adaptation at the house level is not crucial. What is missing, however, is the infrastructure.

House Types

In our study we have identified four types of house forms.

TYPE - P

Parallel wall houses in the small towns. These two storeyed houses may be built either in stone or in brick and wood. A central court is a breathing element of the plan. It is the main source of light and ventilation and interaction place within the house. These houses were built about 100 to 300 years ago and the intricate decorations in wood and stone tell us that the inhabitants had then time and eye for proportions and details, decorations and massing. Jaisalmer houses come in this category. (See plan on next page)

TYPE - 2. - C

These are circular huts around an open courtyard bound by a low hedge. These circular mud wall huts are between 8' to 14' in diameter with a conical thatched roof. A single house consists of few of such huts, each one for different activities. Their earthy quality make them very photogenic. They are mostly found in Kutch.

TYPE - 3. R.

The third type consists of rectangular rooms around a courtyard. The rooms are placed in such fashion that they form the central court. The roof is also made up of stone slabs and therefore reachable and a stair element is included. The boundary walls are high to fight out the sand storms which occur in this part of the world. The stones or sunbaked mud bricks are plastered with mud and once a year repainted with yellow ocher and white paint. This type is found in Bikaner and Jaisalmer district.

TYPE - 4. CR This type consists of a house where rectangular as well as circular rooms are placed around the courtyard. The circular huts have conical roofs and the rectangular rooms have flat stone slabs or a wooden frame and country tiled pitched roof. Visually these combinations are very attractive. They occur in Barmer and Jaisalme.

The final study will also cover the construction aspects, the materials, the techniques of building and their variations.

Final Seminar Discussion

Mr. Lagerwall, The Swedish Handicap Institute

I have witnessed today some very interesting presentations about transportation, independent living and housing for old persons in Japan. My conclusion is that there are technical solutions within the country. Another conclusion I draw from that is the problem that Japan is one of the richest countries in the world as Sweden, Canada, Switzerland and Australia - which I think are the other Western countries present today. The main problem then lies probably on the political level. It is a lack of political decisions and priorities which is the main hindrance for a barrier-free environment in our countries.

The vast majority of disabled people in the world live in what we call the Third World or developing countries. About 60-75 per cent of them live in Asian countries with, very often, very limited resources where traditional solutions from the West are not always relevant. The solutions very often have to be found by the people themselves living in these areas. But we, living in the rich part of the world, like the five countries I mentioned and other industrial countries can be of great help.

It was very interesting to note that MITI which I had learned of as a very high-tech institution, is dealing with these problems. On the plane coming to Japan I read in an article that development cooperation between Japan and Third World countries is increasing drastically. My question then is, whether there are other examples where Japan is involved in building non-handicapping environments in developing countries.

Dr. Milner, ICTA

I noticed one of the problems alluded to here is of trying to implement appropriate solutions that hinges on the fragmentation aspect of rehabilitation services. There are many agencies which have to be integrated in their thinking before one can realize a solution to a problem and this problem is common to all rehabilitation communities. Because of the eclecticism of rehabilitation that you draw from every aspect of life you need to be in contact with all of the variety of agencies and this tends to slow down progress. One has to make this a natural part of thinking in society so I believe that is something that ultimately we should make progress at. But it is rather interesting to notice as well the economic constraint and I alluded to this earlier on and I was hearing the comment about the wealth of some countries in being able to attend to some of the aspects of development. Canada is considered to be a well-developed country but in terms of mounting new initiatives we are continually challenged with the issue of cost-containment. That is, we can mount new initiatives if we are clever about utilization

of existing resources so that whilst you can do something new, fresh and different, you have got to try to do it without increasing or extending costs. I think the arguments for that become important arguments that will sell concepts to governments. I am really wondering whether others could comment on this particular problem. It seems the key words are cost-containment and cost-efficiency and if we are able to achieve efficiencies out of what we do then initiatives will be looked upon favourably.

Dr. Hagita, Yokohama National University

I would like to address a point that Dr. Ratzka raised concerning my report that here in Japan persons with disabilities are gathered into one special area. First of all, we too feel that such a situation must be solved and so we are trying to correct this problem. But there is a Japanese Public Housing law according to which persons, like Dr. Ratzka, who need 4-7 hours of personal assistance a day have to move to special institutions. The reason for this is that there is a principle which is highly understood in Japan that it is a problem of the family. As for political measures, there is no integration policy. In the regional care system it is only possible to offer 3-4 hours of personal assistance a week. Thus, we can say there is no definite home care system existing. Prejudice also prevails in this area, since everyone must participate in social activities such as cleaning the public drainage systems to be accepted by the society. Thus, these internal, cultural problems act as obstacles hindering a solution. Understanding is the primary hurdle and people are becoming more open.

Summaries

Dr. Mickey Milner

Immediate Past Chairman of ICTA, International Commission on Technical Aids,
Building and Transportation

Just some very broad comments from someone who does not come from the world of architecture but rather from the world of technology and rehabilitation service delivery and education. I thought I would like to make some general comments about my experience here today which has been a rather special one in the sense of gaining some deeper insights to architectural concerns which, for me, certainly have an international flavor.

I was quite intrigued with Michael Fox's comments relating to the development of community awareness. To begin to involve local communities together with individuals drawn from the disability community so that there might be partnerships forged which would ensure that the appropriate benefits would accrue in the interests of individuals with disabilities. His handout is rather illuminating and I think it could be very helpful as a model in other countries.

Mr. Mathur, in his presentation, emphasized the need for standards, codes and guidelines, particularly in developing countries. We saw some examples in the various presentations that were given today of how social and cultural conditions need to be considered. It strikes me that the methods of developing guidelines will be quite complicated because of these cultural aspects. Nonetheless I think one needs to be sharing information of this kind with a view to gaining ideas from each other. It is surprising to see, for example, that

when you consider the adoption of the western toilet, how it becomes very useful as people begin to age. So sharing these types of things is extraordinarily helpful.

Mr. Alvarez gave us some ideas from Uruguay and it was interesting to notice the advantages of some formalization in a country like that to make available appropriate kinds of rules to ensure accessibility. I think these are what one needs to focus on in one's own land to make sure that once we have made some progress that there will be no retrograde.

We enjoyed Mr. Tanaka's presentation with excellent slides regarding Kobe and the development of the new center there, a truly remarkable project.

Mr. Li Chu from Taiwan presented some interesting ideas and I think he came as I did, rather more wanting to learn than to contribute; nevertheless, he made a very interesting contribution.

Dr. Akiyama gave a magnificent presentation on the progress of Japan's transport system and having yet to travel it myself I can only compliment the enormous progress and exemplary model that has been set. While there are difficulties in making systems universally available, the practical issue of getting from point A to B in a country such as Japan is incredible.

We heard from Professor Ogawa about old persons and how they cope with the environment of a rural community. Naturally, the habitats for rural areas are quite different than for those areas which are much more urbanized and developed and one has to pay very careful attention to these issues.

From Drs. Hagita and Adachi we got some details of independent living housing projects and realizations attached to those projects.

From Dr. Kose, more realizations that I think were exciting specific examples of the kind of progress that can be made. One realized that in presenting examples of this kind that there will be critics in the audience and sometimes it is not always possible to present the full details of the terrain one has to deal with. But the concepts and ideas of integrating family into these particular concepts was especially exciting.

Dr. Iwai gave us some ideas on the developments in Southeast Asia, emphasizing the social and technical developments that are needed and made the point strongly about the use of existing materials as scrap materials and local technology and the fact the technology had to be appropriate. I sense there was this kind of sensitivity in practically all of the presentations, that one needed to take advantage of circumstances to be able to support these aspects.

We had an interesting question towards the end from Mr. Lagerwall relating to the issue of costs and I think that these are the issues that will continue to concern all of us; the issues of economy, associated with the realizations we have heard about.

In one of the presentations I was very much intrigued to learn about the very careful experimental approach that was used in examining changes and in evaluating those that have taken place, then taking subsequent steps. We make significant progress through a scientific approach to examining the consequences of any development. Documenting our experiences and making available that kind of documentation to an international community is exceedingly important. I also noticed that there is a significant concern for persons with disabilities in general but everyone is conscious of the aging population which will be a growing problem for all of us.

I noticed as well the significant attempts at community living which is clearly the direction we should be moving. But we still have impediments to overcome. These are some fairly general comments and I am grateful for the opportunity to have been able to spend time with you and I want to express my appreciation and thanks to the organizers for putting together such a very significant event.

Mr. Ramesh Biswas, Austria

There is an increasingly greater proportion of disabled people in developing countries due to rapid industrialization, poor traffic safety and industrial safety standards and insufficient medical care and therapy as a follow-up to accidents. Although integration in the family and society is highly desirable, increasing urbanization is leading to greater isolation and the break-up of the family. In such a situation the tendency is towards more institutionalization. While some charities undertake to run such institutions as a last resort, some governments are proud of them and may indeed consider themselves progressive now that they are copying what the industrial nations have been doing so long.

But the importance of integration, which can be partly influenced by design as well as by overall policy, can not be emphasized sufficiently. As long as disabled people are visible and present, it forces the rest of society to confront them, draw consequences in their attitudes and employment policies, as well as in the pace and nature of their industrial development.

Solutions should be small-scale and culturally acceptable to the community. This requires more emphasis on the whole issue in the training not only of architects, builders and construction workers, but also of community health workers and development workers. Only such a process can lead to sensitive and appropriate solutions.

As far as the education of the public in general is concerned, awareness should be brought about that better accessibility is good for all. Houses and workplaces that are built of adaptable, ecologically harmless and economical materials, which have a human scale and are therefore more accessible, are good houses and workplaces for everybody.

Concluding Remarks

Professor Thiberg

CIB's main task is to promote research and development, training and documentation within the wide field of building and planning. Technical issues dominate its activities. Our Commission, W84, is an exemption. W84 puts man in the center and works for building and planning which does not create handicap.

When we at the Secretariat started this work, we set as goals to integrate the users, i.e. persons with own experience of handicapping environments, and to meet the justified demands of developing countries for support in this area.

The first goal we reached at CIB W84's meeting in Prague, Czechoslovakia in 1987. At this event, a large number of persons with disabilities participated in presentations and debates. The guidelines for W84's future work which were formulated then reflect the users' interests.

The present meeting in Tokyo was intended to be the first in a series of regional seminars focusing on the problems of developing countries. We did not quite succeed in this. The main reason is the lack of resources of individuals from poor countries for participating in international conferences. Also, experience and knowledge of physical planning in these countries is still limited. Despite these limitations we all have received valuable contributions here in Tokyo and inspiration for our continued activities.

Thus, we return to Stockholm with new knowledge and the intention to continue struggling for a global understanding of the issues we work with. This effort also means to inspire to find technical solutions which are appropriate for each country's technology.

Finally, it is now my pleasure to thank the organizers in Japan for this seminar. Without your commitment and efforts it would not have been possible. Thanks, first to Dr. Hayashi and all the other individuals who worked for this event. I also would like to thank all the speakers and participants and, finally, our friends in their glass cubicles who helped us understand each other despite our different languages.

Appendix

Resolutions Adopted by the CIB W84 Expert Seminar in Prague

The resolutions adopted at the Prague Seminar in 1987 serve as guidelines for the work of CIB W84. It might be useful to remind the members of our growing CIB W84 community of the commitment to equal rights for all citizens expressed in this document. Hopefully, at future meetings we can start from this common ground and proceed directly to the means of how to guarantee equal rights to citizens with disabilities.

Inner cities have always been centers of human interaction. Constantly changing economic needs require physical adaptation to new functions. These changes present opportunities for increasing the accessibility of these environments to all citizens.

Rapid urbanization and increases in the population of old and disabled persons are global phenomena. A large part of these citizens live in inner cities. For this population accessibility is of decisive importance for exercising their basic civil right to equality and full participation.

Inner cities represent interconnected systems of functions such as housing, administration, commerce, culture, recreation and transportation including street network, parking facilities, pedestrian areas and mass transit. Accessibility to the built environment, therefore, has to be defined not only as access to single elements of the system but the uninterrupted access between all elements within the system. In the face of the diverging demands put on inner cities it is of paramount importance that accessibility is guaranteed by an over-all plan based on a system of laws, regulations, enforcement and monitoring procedures. The competent use of these instruments requires a highly developed professionalism and consumer input as well as a high awareness on the part of the public.

Based on these considerations the CIB W84 Expert Seminar has adopted the following resolutions:

Resolutions directed to national and local governments

1. We, the participants of the CIB W84 Expert Seminar consisting of both non-disabled and disabled persons, cannot accept anything else but the goal of a barrier-free environment and free movement within it for all. Accessibility must be enforced by national legislation.
2. Legal instruments should be developed to ensure accessibility both in new construction and in renovating, upgrading and expanding existing urban environments.
3. In recognition of their experience disabled people and their organizations should be actively involved at all levels in drafting, monitoring, and enforcing legal instruments for the planning and building process.
4. Public funds should be allocated for the development and maintenance of these instruments.
5. Governments shall provide funding for consumer organizations to allow them to build up their expertise in this area and to participate in the decision making and implementation of these instruments.
6. Recognizing the long-term benefits of accessible environments for all, governments should subsidize the development of products and methods that improve accessibility.

These resolutions are in accordance with the "United Nations World Program of Action Concerning Disabled Persons" that has been adopted by all member governments.

Resolutions directed to architects, the planning professions, builders and educators in these fields

1. Practicing architects, planners and builders should view accessibility as basic planning requirement and not as limitation. This view should be an integral part of professional training.
2. Instead of using the arguments of diminished esthetic values and high costs as an excuse for non-action, architects, planners and builders should consider accessibility as a basic civil right and ensure its implementation.
3. In order to stimulate professional interest in this field teaching materials should be developed showing good examples of accessible solutions that do not compromise esthetic or historic values nor the right to equal access. Planners, architects and builders must cooperate in their professional work with organizations of disabled people.

Resolutions directed to researchers

1. Research on accessibility in the built environment should encompass also the environment-society interface with its functional, social, cultural, psychological and economic aspects.
2. Research projects in this area which develop and evaluate legal instruments and their efficient enforcement, planning and design processes, consumer input, professional training and the social, cultural, psychological and economic effects should be given high priority.

Resolutions directed to consumer organizations

1. Consumer organizations should be aware of the political role of the

planning and building process. In order to better realize their goals consumer organizations should actively involve themselves in the political and planning process and improve their technical expertise in this field.

2. Recognizing that developing countries have particular problems, we identify the urgent need for the transmission of information between disabled people of different countries and experience exchange between professionals concerned with disability issues. To ensure appropriate services all environmental planning must recognize available technologies.

Resolutions regarding services that supplement the physical environment

The W84 Expert Seminar in recognizing the superior quality of living in the community as opposed to an existence in institutions advises that investments in institutions are to be phased out and be replaced by services that allow old and disabled citizens a life in the community with equality and full participation. These services include financial subsidies, counselling and personal assistance in activities of daily life, work and leisure. By defining their own needs disabled people have articulated a new philosophy of personal assistance services which allow for choice, independence and the realization of equal rights. Recognizing the differences among countries in terms of available resources and culture, the W84 Expert Seminar adopts the following resolutions as long-term goals for personal assistance services:

1. Governments, preferably at the national level, should take the responsibility for adopting and financing national personal assistance policies in consultation with consumer organizations.
2. Services are to be organized in a way that gives the individual consumer the same opportunities on the housing and labor market as the general population.
3. Services should be organized in a way that enables the individual consumer to exercise maximum control over all aspects of the management of his or her personal assistance including hiring and firing decisions, preferably by being employer of the assistants. Peer counselling and support as well as consumer cooperatives are means to empower most disabled persons to acquire the necessary skills.