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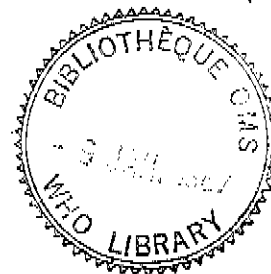
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WHO/UNEP TECHNICAL PANEL ON ENVIRONMENTAL HEALTH
ASPECTS OF HOUSING AND URBAN PLANNING

Second Meeting
Leningrad, USSR

22-29 October 1986 ;

*meeting
2nd
Leningrad
1986*



*Environmental health
housing
city planning*

REPORT OF THE MEETING

During the second meeting of the Panel reviews were conducted of drafts/progress for three guideline and information documents initiated as the result of the Panel's first meeting. These included "An Environmental Guidebook to the Indoor Environment", "Child Survival In or Near Cities: Interventions for a Healthier Environment" and "Community Interventions for Insect and Rodent Control".

The Panel also developed a rationale and suggested contents for two previously reported topics, i.e. "Access to Life-Saving Services in Urban Areas" and "Storm and Surface Water Drainage in Urban Areas".

Finally, the Panel (i) suggested new topics for development as information and guideline documents in a second phase of the current WHO/UNEP Project. These include "Community-based and Health-related Communal Services and Facilities: Factors for Success", "Environmental Health Aspects of Planning the Urban Environment", "Case Studies of Health Problems in Low-Income Communities" and "A Training Kit in Environmental Health for Community Workers"; (ii) made suggestions for operational aspects of Phase II which would accelerate the diffusion of the guidance and information at the country level; and (iii) made suggestions for a new WHO/UNEP project focused on "Environmentally-sound Methods of Community Waste Management".

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I. INTRODUCTION

The meeting was opened by representatives of the host government and cooperating agencies, including Dr Y. Gubernsky from the A.N. Sysin Research Institute of General and Community Hygiene, Mr R. Novick, WHO, and Mr N. Gebremedhin, UNEP.

Dr G. Goldstein who chaired the first meeting of the Technical Panel in April 1985 initially took the chair and noted with pleasure the progress made by WHO and UNEP in developing the themes chosen as a priority by the previous Panel meeting. Mr R. Novick noted the growing interest among many individuals and groups working in the Third World in better understanding the many factors which affect people's health status. The very poor housing conditions which at least one billion people have to endure and the lack of services and facilities like piped water, sanitation, garbage disposal, shelter which provides protection from the elements and extreme temperatures, etc., combined with lack of income and knowledge have an enormous (if unquantified and poorly understood) impact on health.

This second meeting of the Panel must look first to ensure that the right information and guidelines are given to three different levels: policy makers; government and international agency staff who work with low income groups; and lower income groups and the organizations they form. In each instance, this is in pursuit of improved housing/living environment and services. Thus, the Panel should review draft documents now before them and suggest how they should be produced and packaged so as to maximize their impact. The Panel should also discuss whether new topics should be addressed. The Panel agreed that so often too little attention is paid as to how documents or guidelines can be made to reach those who can use them. In addition, when suggesting new ideas for development by WHO and UNEP, the Panel must consider what possible impact that work on that subject could have.

The focus¹ remains 'human settlements' or the built environment. As documents, papers and guidelines come out of the work of the Panel, in collaboration with WHO and UNEP, it should be clear first what information gap they will fill; second, what forms they should have for optimum dissemination; third, what impact they can be expected to have. Will the outputs of this programme actually contribute to a better human environment?

Dr E. Quamina was elected Chairman of the Technical Panel with Dr F. Kloutse elected as Vice-Chairman. Mr D. Satterthwaite agreed to act as rapporteur.

The Panel expressed their gratitude to Dr G. Goldstein who had chaired the first Panel meeting.

¹In this Report, reference is made in several instances to 'low income, high density settlements'. This is no more than shorthand for all the different forms that housing for low income groups take - whether they be slums, i.e. inner city tenements, cheap boarding and rooming houses or squatter settlements, i.e. rented or owner occupation in cheap housing in legal or illegal subdivisions. It is impossible to come up with one term which adequately reflects the diverse forms that cheap forms of accommodation take. But from the point of view of environmental health, 'low income, high density settlements' is the most useful general term to cover these although the environmental health problems usually arise more from the inadequate provision for basic services and facilities (such as piped water, sanitation, solid waste disposal, drainage, roads, sidewalks, electricity, public transport and health care services) than from the fact that they are 'high density'.

The Panel agreed to the working groups proposed by the Secretariat:

- WG I: Health criteria for urban and indoor environmental quality;
- WG II: Community-based actions in assessing and meeting the environmental health needs of children (Document No. 2);
- WG III: (a) Access to life-saving services in urban areas
(b) Urban surface water drainage in developing countries;
and
- WG IV: (a) Proposals for new topics to be developed as information and guideline documents
(b) Suggestions for the approach and activities to be incorporated into a new phase of the Project which would diffuse the information into national programmes
(c) Suggestions for the approach and activities of a new project on 'Environmentally-sound Community Waste Management'.

Mr N. Gebremedhin invited the Panel to consider whether there were new topics of relevance to environmental health aspects of housing and urban planning which they could recommend to UNEP and WHO as part of Phase II during 1988-89. New topics could be developed at the same time as the other Phase II activities which focus on disseminating what has been produced, seeking to ensure such products have maximum impact and seeking over time to evaluate their impacts. Within this, UNEP was particularly interested in health aspects of waste management at community level.

Dr Gubernsky expressed his support for developing 'waste management' and pointed to the long experience in the Soviet Union for planning communities and small, medium and large cities so good conditions can be provided for all; such planning obviously includes provision for waste management.

The draft Agenda presented to the meeting was then approved, with the addition of a working group to review work to date on 'Community intervention for insect and rodent control', which was one of the four priority topics chosen at the previous Panel meeting.

II. PROGRESS REPORT

Mr R. Novick gave progress reports to the Panel on each of the topics chosen for development by the previous Panel meeting.

Community intervention for insect and rodent control: A written progress report (RUD/INF/86.4) on this topic was presented. Dr H. Cohen had developed the first draft. Instead of a 'document' as the final output, a 'kit' was developed for use by community health workers. Draft copies of the kit were sent for review to Panel members, Member States, staff from WHO and UNEP and other agencies and specialists. The decision was made to reproduce this kit, once some modifications had been made, including additional material to help train the community worker who should be the person who makes the most use of the kit. The way through which the user gets access to the kit's information may also change from one based on taxonomy to one based on 'the problem facing the community'.

Dr Cohen pointed out that parts of the kit had been left incomplete on purpose. This allowed the professional using the kit within a community to work with that community in tailoring it to the particular needs and culture of that community. For instance, illustrations in the kit had left blank spaces to be filled in by the health worker with the appropriate language.

Dr Ouano suggested that this kit needed field testing, not more peer review, while Dr W. Weihe expressed a hope that climatic factors relating to health were included in it.

A working group to review the kit but to work outside the hours allotted to the other four working groups was formed by Drs Kloutse, Cohen, Elliott, Gebremedhin, Ouano and Goldstein, with Dr Kloutse chairing it.

Community-based actions in assessing and meeting the environmental health needs of children: A written progress report on this topic, one of the four priority topics chosen by the first meeting of the Panel, was presented (RUD/INF/86.5). Dr J. Hardoy, Director of IIED's Human Settlements Programme and Senior Fellow of CEUR (Centro de Estudios Urbanos y Regionales) had developed a draft 'information and guideline document' by March 1986, with colleagues at CEUR in Buenos Aires. This provided a very good coverage of urbanization and its implications for health, and WHO had added epidemiological information and edited it in preparation for publishing it under the title 'Urbanization and its implications for child health: Potentials for action'. However, this document did not cover the need for information to be provided to people to enable them to take health-promoting actions themselves to improve the environment for children. Dr K. Elliott had been invited to prepare a draft - provisionally titled 'Child survival in or near cities: Interventions for a healthier environment' which would be the focus of Working Group II's discussions. The Panel approved this split, with the document already close to final version being published for policy makers, and the second aimed at low-income groups (both individual level and community leader level) and at district officer level for public employees.

The Panel was provided a copy of the draft of Dr Hardoy's document and requested to provide comments to the secretariat.

Dr E. Quamina noted that no standard procedure was being followed in terms of the Panel's involvement in the subjects that it had recommended for development. In some instances, it seemed that the Panel had chosen a subject and set guidelines for developing it but then had no subsequent input. Mr R. Novick pointed out that working groups formed largely by Panel members had been part of the process to develop documentation on the chosen subjects but that the Panel needed to get publications out. Given the long lead time in getting material printed and the limited time the Panel had before them, it seemed best to print the outputs of some of the working groups. But these could subsequently be revised in the light of findings from their application in the field.

Community-based methodology to identify the needs, priorities and actions in upgrading environmental health conditions in low-income settlements: Progress on this is reported in RUD/INF/86.6. After the Technical Panel's first meeting in 1985, the proposal was developed by Dr W. Hassouna. His first draft was reviewed in December 1985 at a meeting in Cairo with a second draft reviewed once again in a meeting in Cambridge (UK) in June 1986. The document is now to be sent for publication although Panel members were invited to make comments on the text which could be incorporated before final publication. WHO and UNEP hoped that it could be published during 1987 as a contribution to the International Year of Shelter for the Homeless.

The document was aimed at staff of local health units or those in the first echelon of government who could use it to work with low-income communities to identify needs, priorities and actions. No field testing had been done as such a testing would take at least one year to eighteen months. But since the document had been produced by people with long experience in surveys, and subject to an exhaustive review, it seemed best to publish it, promote its application through WHO country offices and other agencies and allow feedback from these to determine whether a revision was needed. But this document, like that on 'Urbanization and its implications for child health: Potentials for action', could still be changed and comments from Panel members were invited, either in written form or verbally during this Panel meeting, or in written form after the Panel meeting. The agenda that the Panel had to complete at this meeting did not allow time to read and then discuss these documents in depth.

Health criteria for urban and indoor environmental quality: The Panel received a written report on progress on developing this topic since the first Panel meeting (RUD/INF/86.7). After this subject had been chosen for development, a first draft was prepared by USSR experts under the direction of Dr N.N. Litvinov. This was reviewed in a meeting in November 1985 and a revised outline adopted. A second draft is now presented to the Panel. USSR experts have provided the scientific input for the substantive chapters of the report; the task remaining is to elaborate a first introductory chapter and a final conclusions chapter (Chapter 7), which are written specifically to facilitate use of the information by policy-makers, planners, architects and builders in developing countries.

III. WORKING GROUPS

The Panel discussed the division of its members into four working groups, following suggestions put forward by the WHO-UNEP secretariat.

Working Group I would review the second draft of 'Health criteria for urban and indoor environmental quality'; the group consisted of Dr F. Kloutse, Prof. H. Cohen, Dr Y. Gubernsky, Dr T. Chistyakova, Dr I. Karagodina, Mr N. Gebremedhin and Dr W. Weihe (Chairman).

Working Group II would review the draft second document of the work on 'Community-based actions in assessing and meeting the environmental health needs of children', the output aimed at interventions in and by low-income people and their community organizations. A draft entitled 'Child survival in or near cities: Interventions for a healthier environment' had been prepared by Dr K. Elliott. The working group consisted of Dr W. Hassouna, Dr K. Elliott, Mr D. Satterthwaite and Dr G. Goldstein (Chairman).

Working Group III would develop two new topics which the Panel regarded as high priority. The first was to review a draft document on 'Access to life-saving services in urban areas' written by Dr L. Costa Leite while the second was to develop an outline for work on 'Urban surface water drainage in developing countries'. The group consisted of Mr G. Njau, Dr E. Quamina, Mr L. Costa Leite and Dr E. Ouana (Chairman).

Working Group IV was to develop ideas for Phase II of the Technical Panel's programme in 1988-89, including how to use and disseminate material produced in the first phase and what new topics might be considered for development in Phase II. In addition, this working group would also consider suggestions for the approach and activities of a new WHO/UNEP project on 'Environmentally-sound community waste management, chaired by Dr W. Hassouna. This Panel was made up of the members of Working Groups I and II, after they had finished their allotted tasks.

Among the main tasks for each working group were:

- ** Identifying the problem which the output of the subject under discussion would address
- ** Clarify how the output would help attack the problem
- ** Objectives of the output and target users and channels for reaching them

In addition, each working group should review any work to date to suggest where amendments or additions were needed.

The Panel noted the importance not only of producing good outputs and ideas but also ensuring that they get distributed to those who can act on the information and advice they contain. The need to reach children through teachers and community health workers of all kinds was stressed. For instance, the need for children to learn the importance of hand-washing for health or of the dangers of substances like kerosene or bleach stored in the house was of considerable importance.

In addition, the need to monitor and evaluate the impact of outputs from the Panel's work was also recognized. So too was the need not to forget the wider and broader aspects of environmental enhancement by becoming too focused on one or two particular health problems.

The Panel and the secretariat also noted the need to develop links and cooperative programmes with Third World based institutions both in suggesting and developing new ideas and in ensuring the dissemination or widespread use of outputs arising from the Panel's work. But the lack of institutions with the funds and knowledge to work as partners in the field of environmental health for urban housing and urban development in the Third World was a major constraint.

IV. DISCUSSION OF NEW TOPICS TO BE DEVELOPED DURING PHASE II

Working Group IV had discussed which topics might be suitable for the Panel to develop in Phase II of the programme, 1988-89. It had short-listed seven topics and short outlines of each of these were presented to the Panel (see Report of Working Group IV for further details (Annex 4)).

These topics were:

1. Community-based and health-related communal services and facilities: factors for success
2. Design criteria for external spaces in human settlements
3. Meeting the needs of mothers and children in planning and siting of low-cost settlements
4. City climate
5. Environmental health aspects of planning the rural and urban environment
6. Case studies of health problems in low-income communities
7. A training kit in environmental health for community workers

The Panel discussed the seven topics, first as to whether the outlines were relevant and complete, and secondly as to whether they should be recommended by the Panel for development by WHO and UNEP. Prior to this discussion, agreement was reached that new topics must be explicitly linked with environmental factors and their interrelation with health.

In discussing topic 1, 'Community-based and health-related communal services and facilities: factors for success', the Panel agreed that this should also include concern for garbage disposal and surface/storm water drainage, as well as the other items noted. Mr R. Novick suggested that this might be a subject which could usefully be developed by WHO collaborating centres since they had experience of relevance to this topic.

In discussing topic 2, 'Design criteria for external spaces in human settlements', the Panel noted that special attention should be paid to the needs of the disabled and that an alternative term to 'community furniture' be sought to make this heading more easily understood.

In discussing topic 3, 'Meeting the needs of mothers and children in planning and siting of low-cost settlements', three changes were suggested. First, a title was needed which was more explicit about the topic's link with environmental health. 'Meeting environmental health needs of mothers and children in planning and siting of low-cost settlements' was suggested. Secondly, the need for food preparation (including in many instances cooking) outside the shelter should also be considered - although the extent of such needs and the form they take differ greatly, at the very least in relation to climate and culture. The third was the need to be more specific about factors of light and shade.

Under topic 4, 'City climate', Dr W. Weihe had agreed after the discussion of this topic within Working Group IV to develop this proposal further and thus the Panel did not discuss this topic any further.

Under topic 5, 'Environmental health aspects of planning the rural and urban environment', the Panel suggested first that this theme should drop the word 'rural' from the title and concentrate only on urban environment (although at different urban scales) and secondly that the document might usefully be divided into two, with one part dealing with planning new settlements and another looking at what can be done to improve conditions in existing settlements.

Dr Litvinov noted that there were similarities and overlaps in the five topics discussed so far, while the two topics still to be discussed, case studies of health problems in low-income communities and training kit in environmental health for community workers were qualitatively different. The first five topics could be discussed as one group of issues to be dealt with together. Given the importance of each of the first five topics, Dr Litvinov suggested that these be amalgamated into one. During a discussion of this proposal, the Panel agreed that topics 2-5 could be amalgamated, although topic 1 'Community-based and health-related communal services and facilities: factors for success' had to be treated separately in that this was more about what had happened already; the aim was to draw lessons from reviewing this experience.

Amalgamating items 2 to 5 does risk losing the impact that short, focused documents on topics like 2 and 3 can have. However, the Panel noted that there were also advantages in combining these four topics. First, treating them all together allowed an exploration of their interrelationships and this would be a challenging task. Secondly, it presented the possibility of increased collaboration with and integration of scientific inputs from the USSR. It was also noted that in developing criteria for standards and criteria for public interventions, care would be taken to adopt a flexible approach. In many instances, the attainment of the standards that the Panel would like to recommend purely from a health point of view would prove impractical in that the cost of meeting these standards would be too high. Thus, the Panel agreed that 'ranges of standards' have to be suggested and that the suggested approach to achieving these would centre on advice on how the best possible standards could be achieved in each instance given the resources and personnel available.

The Panel agreed with a suggestion put forward by Mr Novick that a carefully-selected group of experts were needed to work out how items 2 to 5 could be combined, in collaboration with WHO, UNEP and Dr Litvinov.

Dr Litvinov noted that Soviet experience with rebuilding and rehabilitation of buildings and of the criteria adopted to do so would also have relevance to this work. Dr Elliott also noted that she would value advice and suggestions from Dr Litvinov and his colleagues as to examples of relevance to topic 1.

The Panel charged Mr Novick and Dr Litvinov with preparing such a technical group and with ensuring that the items outlined in topics 2 to 5 were included in the newly-developed topic.

Dr Kloutse noted that Working Group IV had developed some criteria for prioritizing the selection of new themes by the Panel. In this discussion within Working Group IV, agreement had been reached on the need to give priority to topics related to 'evaluation of past experiences' as in the case of topic 1 and 'methodology and field testing previous Panel outputs' as in the case of topic 6.

In a discussion of topic 6, 'Case studies of health problems in low-income communities', the Panel endorsed Dr Goldstein's suggestion that this be retitled 'Case studies of environmental health aspects of 'upgrading' in low-income communities'. In addition, while there had been case studies of low-income groups' health problems, there were very few that looked explicitly at upgrading schemes and included an examination of whether the design and implementation of upgrading projects explicitly addressed the major environmental health problems. The Panel requested that Dr Goldstein develop this focus further and subsequently approved his modification of this outline.

The Panel discussed whether topic 6 could not be combined with topic 1 ('Community-based and health-based communal services and facilities: factors for success') but it was agreed that it was difficult if not impossible to reconcile the two. Topic 1 is not looking at health outcomes but more about how and why people are organized to provide and maintain community services and facilities including an evaluation as to their success in doing so. Panel members noted that in this topic, case studies of failures were as instructive as successes. In addition, what at one time could be described as a failure could turn into a success with some change in the organization (for instance, better management) while for comparable reasons what began as 'successes' could become 'failures'. Topic 6, by contrast, is more closely related to epidemiology. Thus, the Panel decided not to try and combine topics 1 and 6.

In discussing topic 7, 'A new training kit in environmental health for community workers', the Panel recommended that it be accepted by WHO and UNEP as one of the new themes to be developed in Phase II (1988-89). It should also include material about the external environment and could draw on other material produced by this Panel in developing this.

Thus, in concluding the discussion of the new topics which the Panel recommended that the secretariat develop, topics 1 and 7 were recommended. In addition, the Panel recommended that a technical group be formed by Mr Novick and Dr Litvinov to combine topics 2, 3, 4 and 5 and that the redeveloped topic 6 be included in Phase II. A further reason for Panel support for topic 6 was that it also allowed field testing of the 'Community-based methodology to identify the needs, priorities and actions in upgrading environmental health conditions in low-income settlements' which is an output from the Panel's first phase of work between 1985 and 1987.

V. ANY OTHER BUSINESS

The Panel expressed a wish to involve other agencies in its work and in the RUD programme. Although invitations had been sent to institutions such as UNCHS (Habitat), UNCIEF, WMO, ILO and the World Bank, and in some instances letters had been received expressing their interest, no representative of these agencies came to join the Panel in its discussions. The Panel agreed that the Chairman should write to the Executive Director of UNCHS, on behalf of the Panel, to encourage them to reconsider becoming joint sponsors of the Panel. The Panel acknowledged the value that their involvement would bring and the expertise that they would contribute.

The Panel also discussed ways in which the Panel and its secretariat might give more publicity to the whole subject of environmental health and its relation to the built environment. They noted with pleasure the development by the secretariat of a RUD Newsletter. It was also agreed that ways of stimulating interest among students and young professionals whose work relates to development should be sought. Prof. Cohen suggested that a large conference might be one way of better 'launching' the subject while competitions for students can help stimulate new and innovative approaches to some of the problems which the Panel has sought to address. The Panel agreed that in the longer term, lots of national and regional seminars on different aspects of this subject which also actively seek to include students and young professionals as full participants is the most effective way of stimulating interest

and action. Mr Novick mentioned that governments or institutions may approach WHO to co-sponsor a conference so it may be possible to have a major conference, as well as supporting the series of smaller seminars as outlined in the Report of Working Group IV. If a student competition were to be developed, it was recognized that this should be organized and judged regionally.

REPORT OF WORKING GROUP I

This working group reviewed the work completed to date on 'Health criteria for urban and indoor environmental quality' since the seven members of the group had met in November 1985 in Moscow. At this meeting, the group decided on a report for publication with seven chapters following an agreed outline. The Soviet delegates had volunteered to prepare Chapters nos 2 to 6 concerning city climate (2); thermal comfort (3); air purity (4); light (5); and noise (6). Drafts of these, prepared by Dr Gubernsky, Mrs Karagodina and Mrs Chistyakova, were submitted to WHO, Geneva in July 1986.

Following a suggestion by the Moscow meeting that an overall editor be commissioned to produce the final document, WHO approached Professor John Page, Sheffield, U.K., who accepted. An ad hoc meeting was arranged by Mr Novick in Geneva on 6 October 1986 with Prof. Page and Dr Weihe to discuss this task.

Sadly, this working group was constrained by the illness of Dr Gubernsky who had to leave early and by the fact that the other Soviet delegates had to be temporarily absent due to other professional obligations.

In introducing the session, the Chairman reviewed recent developments:

1. The Report of the Working Group from its 1985 Moscow meeting was sent to members in February 1986: unfortunately not all members received their copy.
2. In a letter to Mr Novick dated 4 June 1986, Dr Taesler had provided copies of decisions made by WMO on the promotion of work on the theme "climate and human health". One section was on building climatology. Dr Taesler wanted to stress that information on applied climatology could be made available through WMO, and that some of this information was of relevance to the document under review.
3. Dr Weihe mentioned the report on "Low Indoor Temperatures and Health" of a working group meeting held at the WHO Regional Office in Copenhagen, 11-14 November 1985. The report dealt with urban hypothermia of elderly people. The lower permissible room temperature was set at 15°C. This limit is also applicable to tropical climates where children suffer hypothermia if ambient temperatures drop below this limit.
4. Dr Weihe reported that a WMO/WHO/UNEP international conference on climate and human health in Leningrad, 22-26 September 1986, stressed the importance of indoor climate. The recommendations from this conference have some bearing on the work of this working group.
5. Dr Weihe introduced and commented on a revised outline for Chapters 2 to 6 of the document which had been suggested by Prof. Page to facilitate harmonization of the contents. The group noted the outline but decided to discuss it at a later date. Dr Weihe reported that during the preceding meeting in Geneva, it was emphasized that the contents of all chapters were of high quality, containing the important points and material, but that there were some inconsistencies in the length of chapters, the use of symbols, and the arrangement of the material. Therefore the group should not discuss the contents; the priority should be on harmonization of the contents. Furthermore, the document should be limited to indoor conditions. Only very crucial outdoor conditions should be treated to the extent that they influence directly the indoor environment. The working group agreed to this proposal. One should aim for the highest standard and delete what is not important. Gaps in the text should be made known.

After this preliminary discussion of the work policy, the Chairman called on authors to comment on their chapter.

Chapter 2 - Assessment of Climate - was presented by Mrs Chistyakova. The chapter was based on climatic conditions in the USSR but could easily be adapted to tropical climates. City climatology was dealt with in particular. For orientation, the concept of climatic passport for a town was introduced. This description of local climate, including modification, could be compiled for each location. It could serve planners in their decision on size of building, placing, etc. During the following discussion Dr Cohen suggested that a similar grid could be worked out for indoor climate while Dr Gebremedhin warned that too much detailed information should not be requested because it is costly and it could not be obtained everywhere within a reasonable time.

Chapter 3 - Microclimate in Enclosed Dwellings - was introduced by Dr Gubernsky. He remarked that it was an extract from a book which he has written. The contents were not discussed in length. Dr Cohen felt that the information should be heavily illustrated to ease the academic touch. Dr Gubernsky agreed with this suggestion and stated that he would be glad to provide drawings.

Chapter 4 - Health Criteria for Indoor Air Quality Control - was also reviewed by Dr Gubernsky. He stressed that priority lists of compounds were worked out, including 68 of the most important substances giving the permissible daily dosage. He also introduced the overall chemical load with a formula as used in the USSR. There was a longer discussion on various points in this chapter. Dr Cohen requested a differentiation between indoor conditions in different kinds of rooms such as kitchen, bedrooms, etc., according to human activities and time spent in these rooms. The group felt that diagrams were needed to facilitate understanding and use of the information. The permissible and tolerable levels should be given as zones of registered mean concentrations.

Chapter 5 - Health-related Criteria for Lighting - was also reviewed by Dr Gubernsky. He gave a brief review as the text of the chapter was rather straightforward. He felt that certain parts such as that on window size could be reduced. The group felt that these points could be dealt with by the editor, Prof. Page.

The question of illustrations was brought up again as simple drawings are very helpful in illustrating the problems of illuminating rooms.

Chapter 6 - Ambient Noise - was reviewed by Mrs Karagodina. This chapter contains a lot of basic information. It was decided that the theoretical parts could be reduced while the practical parts could even be extended. Charts and graphs should be inserted to illustrate text. Text and illustrations should be appropriate for the level of knowledge of the target user of the document.

Finally, Dr Gubernsky summarized the comments made after the discussion of the chapter. He said that all of us should help to add that information which was needed but was not there, and that an overall harmonization should be carried out by the chief editor, Prof. Page. He and his colleagues would send illustrations and a list of references to Mr Novick. The references should be added at the end of each chapter.

The discussion on Chapter I was brief. The group agreed that nothing important could be added to its present form and that it should be adopted as it stands as an introductory chapter. The harmonization could be left to the chief editor.

In discussing Chapter 7, the text prepared by Dr Cohen at the Moscow meeting was considered to be solely of guidance value. A revised chapter entitled 'How to Use this Document' should be prepared with Third World nations in mind, geared to decision makers and taking social and cultural characteristics of each country into account. Rather than Chapter 7, this should be called Part II.

Working group members felt that this Part II would emerge from the harmonization of the text of Chapters 2 to 6 plus the outline prepared by Dr Cohen at the Moscow meeting on 'How to Use This Document'. Dr Cohen stressed that the editing process should ensure the adoption of heavy indexing and sub-division of contents, using numbers and symbols to identify the paragraphs and aid in the preparation of the index. Part II could be linked to the index. A general references list containing regulations and principal publications should be added as an Appendix. A glossary of terms should be included as part of the Appendix - or perhaps close to the front of the publication. Each chapter should contain a section on methodology and instrumentation. The following contents list was suggested:

Part 1 Preface
Abstract or synopsis
Glossary
Chapters 1 to 6 (with references at the end of the chapters)

Part 2: How to use the document
Appendix: References
Index

Part 2 on 'How to Use this Document' should be further broken down into the following:

INTRODUCTION. The target is to promote by the year 2000 protection for all recognized health risks resulting from

- (a) poor indoor environmental quality
 - (b) noise and inappropriate lighting
- 1-2 pages

APPROACHES TO ACHIEVEMENT OF TARGET.

- (1) The WHO/UNEP Guidelines and revision at national level
 - methods

1/2 page
 - (2) Introduction of effective legislation, codes ...
 - 2.1 Indoor air quality
 - 2.2 Noise (section 8 in USSR document good example)
 - 2.3 Lighting
 - 2.4 Case-examples (for 2.1, 2.2, 2.3)

2-3 pages
 - (3) Administrative and technical measures
 - 3.1 Management of indoor air quality, noise, lighting
 - 3.2 Surveillance (institutional arrangements, equipment, tools)
 - 3.3 Promotion and/or enforcement
 - 3.4 Case studies

2-3 pages
 - (4) Training and education
- 1 page

Paragraphs in chapters could be numbered similar to official publications of governments. Each chapter could begin with a brief abstract of the contents. A glossary of terms could be inserted after the abstract or as part of Chapter 1, and references could be placed at the bottom of each page instead of at the end. Unsolved problems should be indicated in each chapter.

Finally, after a discussion on the title, the group decided to call it "Indoor Environment: A Guidebook".

To facilitate progress in the production of the guidebook, the members of the group were asked to submit their material to Mr Novick. The drafts of the harmonized and edited versions should be sent out to the members for review. Readiness was expressed in providing help to the chief editor, Prof. Page, where and when needed.

With this, the third session was closed. The Chairman, Dr Weihe, thanked the members of the group for their many and valuable suggestions for the further processing of the guidebook, in particular the Soviet delegates for their written contributions.

REVIEW OF WORKING GROUP II

The task of the working group was to review a draft document prepared by Dr Katherine Elliott entitled 'Child Survival In or Near Cities: Interventions for a Healthier Environment'.

(a) Problem addressed by the document. First, lack of knowledge on health promoting behaviour in relation to the existing environment and actions to improve environmental conditions at household, community and district level.

The right information in the hands of individuals/families/community leaders/those working in low-income communities about health promoting behaviour and actions will increase child survival and improve child health significantly. Many studies have shown that child health and survival is a high priority in most or all low-income communities.

The problem is rarely a lack of knowledge among medical professionals and public health officials. More often the problem is that the knowledge that individuals, families and communities need to improve environmental conditions and behaviour to enhance child survival and health is not available to them in a form which they can understand and act upon.

(b) How the document may help in attacking the problem. First, by putting knowledge and tools for a comprehensive approach to improving child health and survival (including check lists) in the hands of those people who interact most directly with low-income households to promote health and environmental improvement. It has a role as a training manual for such workers. Secondly, within the package, by including materials (text and illustrations) for use direct by households, by those visiting households and in campaigns designed to reach every low-income household within a defined area.

The document has two components. The first - the draft of which is presented at this meeting - is one aimed at informing, advising and training all individuals you work with in low-income households and neighbourhoods in seeking to effect changes to improve conditions. This includes community leaders or spokespersons, health-workers, local government employees or staff on local, city-wide, national or international NGOs. It includes nurses and mid-wives, health visitors, city employees concerned with environmental health, sanitation, food hygiene, planning, building controls, etc.

However, the final document will also include a second component: graphic strips or posters and simple instructions designed for the illiterate or only just literate as an aid to those mentioned above in their inter-actions with people who live in low-income communities.

(c) General objectives of the proposed document. To bring high level technical knowledge on environmental health, child diseases, and the promotion of child health and survival to community workers, but to translate this into simple language and practical interventions. Thus it seeks:

1. To show to the two main classes of users listed above the connection between environment, lifestyle and health, to highlight particular urban environmental conditions for poor urban communities which contribute significantly to ill health or death of children. The heightened awareness of environmental health issues will help low-income communities to participate more effectively with the government for the public provision of a basic level of services and facilities.
2. To show that certain actions can be taken by individuals, families and communities, even in difficult circumstances, to reduce the health problems of children caused by poor environmental conditions.
3. To describe a range of interventions which can be implemented at family and community level and to suggest complementary actions needed from government at district level.

(d) Target users (readers) and channels. For the main document - primarily all those individuals from governments, NGOs and international agencies who work within or whose work impinges on slums and squatter settlements (see under (b) for some examples).

For the graphic strips and posters - individuals, families and community groups within high density, low-income settlements but with information they contain amplified by home visits.

Target channels: For main document, A5 size pamphlet produced in different languages with charts, diagrams and illustrations and content clear to anyone who has completed secondary education.

For accompanying strips and posters - to be distributed with main document. Inclusion of package in training courses for community workers and health care workers.

Its effectiveness will depend on the extent to which the package can be got into the hands of all those people whose work affects or could affect low-income communities in ways which impact on health and environment.

Thus, channels for use should be negotiated by WHO country officers with national governments so they can be distributed through official channels to teachers, health workers, municipal employees whose work relates to the improvement of housing/living conditions/services, etc. Also, through UNEP and WHO, contact with other multilateral agencies (i.e. World Bank, regional development banks ...) bilateral agencies (especially those who focus most on improvement of housing and living conditions and community development) and national and international NGOs (e.g. UNICEF, CARE, NOVIP, CEBEMO, the different Save the Children and OXFAM national groups, Redd Barna, MISEREOR, EZE, Christian Aid, World Council of Churches ...). In nations where churches are active in community development, priests/monks/nuns/religious orders can also be important target users.

Publicity given to package through series of articles and papers in a wide range of newspapers, magazines and professional journals written by Panel members, radio and TV and other outputs arising from the Panel's work.

(e) General approaches by WHO and UNEP. The success of this document depends on it getting into the hands of those that can use it. This implies very large print runs in as many languages as possible. Initially, it would be important to print a large number in (say) Spanish, English and French. In the longer term, it would have greater impact if governments or NGOs within the nations where it was used took responsibility for 'versioning it' so it is more focused on problems there (although with WHO/UNEP able to monitor this versioning). But in such cases, printing may need to be organized in another nation since in many Third World nations, large print runs of any document are subject to long delays.

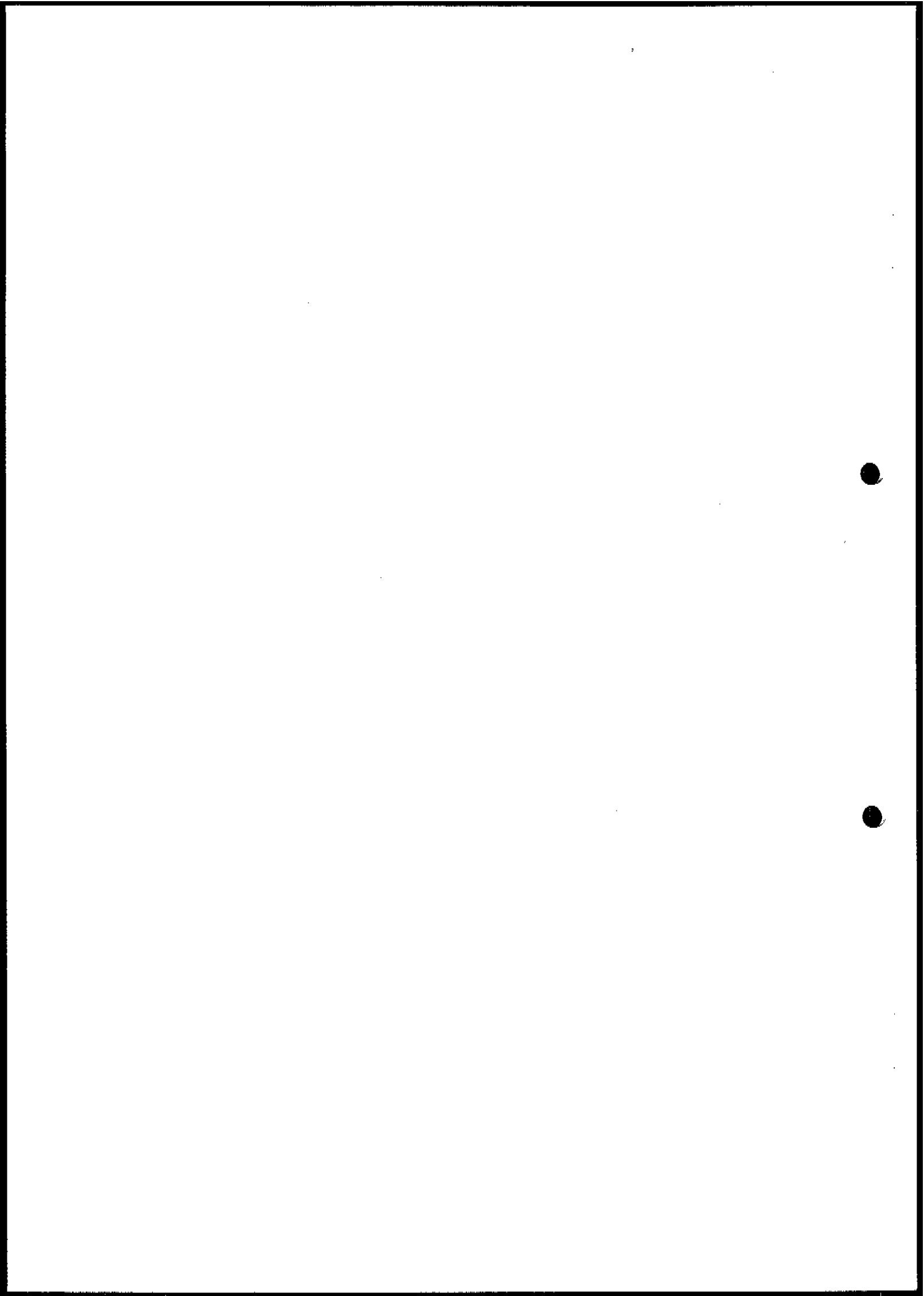
During the discussion, the following points were noted:

** The booklet is about what individuals, families and communities can do if they do not have water piped to the home, public provision for removal of household and human wastes, comprehensive health care, good infrastructure (e.g. roads, pavements, electricity ...). The booklet should not be construed as suggesting that communities and families should be self-sufficient in environmental health matters, but simply that given poor environmental conditions there are actions that communities and families can undertake by themselves to improve health. Government efforts to improve basic environmental services will be assisted by greater community awareness and participation.

- ** Suggestion that perhaps rather than integrate 'flooding/water-logging' and 'growing food/livestock' within the main body of the text, these should have short, separate sections.
- ** Agreed that more illustrations and diagrams were needed to make the text more easy to read and understand; this had been the intention of the author anyway.
- ** Agreed that 'environmental enhancement' should be strengthened - for instance, planting trees, providing children with protected play areas; within such play areas, teaching children about growing and caring for plants and trees, etc.
- ** Agreed that the issue of ensuring that communally used areas and facilities will need mechanisms or institutional arrangements set up in the community to ensure these are properly used and maintained.
- ** Schools and day care centres were noted as a good way through which children and their parents can be reached with suggestions on how to improve child health and survival.

Here was a key entry point for education on importance of proper use of water and sanitation arrangements.

- ** Document should be produced with text in at least two colour inks with tinting boxes in text and printed on durable material with good quality paper and a plasticized waterproof cover. A compromise is essential between quality of production (and unit cost) on one hand and the achievement of effective coverage of potential users on the other.



REPORT OF WORKING GROUP III

A. Access to Life-Saving Services in Urban Areas
An Expanded Annotated Outline

Statement of the Problem

High density low-income settlements are rapidly growing in metropolitan areas of developing countries.

According to the publication "International Year of Shelter for the Homeless" published by Habitat, "approximately one quarter of the world's population does not have adequate shelter and lives in extremely unsanitary and unhealthy conditions. In the developing countries, the percentage of the population living in urban areas will rise from 28 per cent (1975) to 44 per cent (2000). In 1950, only two cities in the developing countries had over 5 million inhabitants. In 1980 there were 26 cities with a population of 5 million or more in the world, of which 19 were in developing countries. Overall the populations of slum and squatter settlements are increasing at twice the rate of the cities themselves, and four times faster than world population growth."

These unplanned settlements are often located on undesirable land, e.g. extremely steep hillsides or land subjected to flooding. They lack some or even all of the essential public services like potable water supply, sanitary disposal of human waste, garbage collection, surface water drainage, street lighting, health care centres and schools.

Municipal governments of Third World cities, chronically suffering from lack of funds for public works and services, either consider the problems too huge to tackle or tend to ignore the existence of such human settlements.

At the same time, rendering services of any nature to these settlements presents technical problems, since the systems usually adopted follow internally-accepted performance standards with a view to getting closer to the standards established for the cities of developed countries.

To extend public services to these high density low-income areas is often considered as an almost impossible task, because of the lack of access or because of excessive density of individual dwellings and the irregular patterns of siting. When facilities exist in the community, access to hospitals, relief stations, etc., may not be available without substantial deposits or initial payment.

The very circumstances described above are those which contribute to the likelihood and severity of accidents and other life threatening situations in these settlements. Likewise the absence of these services and lack of access impede rapid and effective response in times of emergency. An analysis of the emergencies in Third World cities will most probably show an absence of a regular service of garbage collection as one of the reasons for the frequent slope slidings and the main cause for blocking rivers and drainage channels with the resulting stagnant water and flooding. Accumulated garbage is frequently the source of small fires. Epidemics may result from the growth of the population of rats and insect vectors in the garbage heaps accumulated in different spots of the community. The combination of open fires for cooking with inflammable building materials in an overcrowded situation increase the fire hazards.

Health centres or health posts situated in or near the settlements are usually primarily concerned with maternal and child health and the care of the chronically ill, and are neither staffed nor equipped to deal adequately with acute emergencies. Consequently, the transport

of the acutely ill or injured person to the nearest hospital presents an acute problem. A reliable system of communication to the nearest police/fire station and hospital is a prerequisite for timely assistance in an emergency, and likewise communication to the community within the settlement is essential.

On the other hand, "civil defence", when existent, is either too militarized or lacks the minimal resources such as personnel, means of transportation, shelter or even hygiene.

Statement of Purposes

The objectives of this document are:

- (a) to increase the awareness on the part of governmental agencies, urban planners and other professional groups as well as life-saving organizations of the growing difficulties of saving life in emergency situations in high density low-income settlements in developing countries;
- (b) to identify the contributing factors and suggest methods of improving the environmental management of these settlements and other preventive actions at low cost so as to decrease the likelihood and severity of life threatening incidents, involving the community in both the identification of constraints and the solution of problems, the organization and maintenance of emergency self-help measures;
- (c) to suggest the development of a system within the settlement that will increase the awareness of the settlers about the issue and on this line, mobilize the community itself to undertake preventive environmental health activities; and
- (d) to help to mobilize national and international support for needed actions to ensure that minimal life-saving services are readily accessible and available in all large settlements.

Target Users and Target Channels

This document is to be disseminated and used among municipal government officials, managers of life-saving services, community workers and community leaders, through the government channels usually adopted by the UN system agencies.

Since these guidelines will be developed on a global perspective, local conditions and practices are to be evaluated and taken into account when using the manual. The strategies presented in these guidelines are to be discussed in meetings involving community leaders and government representatives in order to develop proposals adapted to each situation, but always very well defined, in terms of scope and time schedule, leading to the establishment of a permanent life-saving system.

Chapter 1 - This chapter is a restatement of the problem and the need for access to life-saving services in urban areas as stated in the previous section.

Chapter 2 - Problem appraisal. The design of a tailored system for a particular community should start from the identification of the problem scale and priorities, through a quick qualitative assessment of likely life-threatening situations using simple surveys and the history of previous episodes.

The situations examined should include environmental factors arising from natural phenomena and from man-made origins. The assessment should list all existing facilities, institutions and individuals within and outside the community that may be involved in the life-saving system.

The surveys shall be made primarily by interviews with community leaders, community workers, police, fire department and civil defence, health department and public works department officials.

Non-governmental organizations shall also be contacted to provide information on how they are currently helping the community to cope with life-threatening situations and how this help can be fostered and coordinated.

Chapter 3 - Design of a life-saving system. The structure of the life-saving system shall be designed according to the particular conditions of each city. Nevertheless, it shall always comprise a group for coordination of activities and an NGO council. The hierarchy of the system shall be simple and adopted following consultations in meetings involving government officials and community workers.

This system will also comprise the design of basic facilities needed to upgrade the environment of the settlement and improve quality of life as well as achieve effectiveness in coping with life-threatening situations, e.g. installation of water hydrants, location of health services, opening of accesses for small vehicles, improvements in the garbage collection, development of a communication system, and it should also include the development of plans and identification of resources for alternative shelters in case of emergencies requiring evacuation and arrangements for rapid removal of seriously ill or injured persons.

This phase should assess the sources for financing the system, or at least, implementing the basic improvements needed for upgrading the environment in aspects related to life-threatening situations.

Chapter 4 - Operational plan. The system will be directed towards the coordination of tasks to be performed by the community as well as the governmental and non-governmental institutions (Red Cross, Red Crescent, church, boy scouts, service clubs, etc.) involved in the prevention of minimization of the effects arising from all kinds of accidents, ranging from small day-to-day ones to disasters.

Further, the operational plan shall include routine inspection by government technicians of the most dangerous areas. Special inspections can also be made at the request of the community. These inspections should lead to risk eliminating measures.

Very important in this phase is the planning of the role to be performed by volunteers within the settlement.

Chapter 5 - Long-range activities. Long-range activities in the life-saving system deal basically with the planning of a continuous training effort (drills and exercises), production of visual aids and research of alternative technologies with suggestions of new approaches and methods of improving the system.

These activities shall be accomplished through periodic and systematic meetings of the community leaders, community workers and government officials that integrate the life-saving system.

The experience gained with the implementation and operation of the system shall be disseminated, not only among the community and the organizations involved in the matter, but also to urban planners and policy makers.

ANNEX 3

Appendix

The appendix will include a description of the current civil defence system of the city of Rio de Janeiro, Brazil, as an example of a big metropolitan area. Other case studies will be presented to illustrate general application of the concepts under different conditions. Information sources will be listed.

B. Storm and Surface Water Drainage in Urban Areas

Introduction and Statement of the Problem

Low-income high density housing in developing countries is often located in areas unsuitable for other uses. Those areas are steep hillsides or marginal and flood-prone areas along rivers and swamps. Erosion and landslides on steep hillsides are caused by lack of proper drainage facilities which result in destruction of houses, injuries and loss of lives.

Flash floods in marginal areas along rivers and swamps also destroy houses and kill the residents at the height of the rains. In those areas lack of proper drainage facilities results in stagnant waters for most of the year. The stagnant water is often contaminated with raw sewage, garbage, effluent from septic tanks and waste from washing. The stagnant water is a serious public health threat. Insect vectors and pathogenic microorganisms are present in stagnant water, floating garbage and decaying organic matters. Skin and intestinal diseases are transmitted through direct contact with contaminated water or consumption of contaminated food and drinking water. Houses and living quarters remain damp for long periods of time which could cause respiratory diseases.

Odours and unsightly scums from decaying organic matter in the stagnant water inconvenience the residents and lower their morale. Hydrogen sulphide gases generated in anaerobic decomposition of the organic matter in the stagnant water corrodes and destroys metallic implements in the houses.

Public health problems due to stagnant water are interrelated to proper collection and disposal of solid wastes, wastewater and sewage. The extent and duration of the flood or presence of stagnant water is dependent on the upstream and downstream development, as well as the internal drainage pattern in the area. Large-scale flood control and drainage projects involving the upstream and downstream areas are often designed and implemented by national agencies with funding from large development banks. Those problems are too complicated to be treated at the local level. The improvement of the internal drainage system within the affected community could be carried out jointly by the residents and the local government. Proper drainage calls for close cooperation by all members of the community from its inception, construction and maintenance. Drainage must have the proper slope to drain the water and minimize the siltation. Some houses may have to be relocated and residents may have to sacrifice some of their premises to improve the water right of way. One uncooperative member who blocks the water flow could destroy the drainage system for the whole community.

Cooperation from the community during the construction and regular maintenance is essential. Garbage must be properly disposed of instead of being thrown to the drainage lines. Silted sections must be cleaned regularly to its original grade. Over excavation is just as bad as a silted drain. Drainage with steep slopes leads to erosion. Design and coordination of the construction work is a complex activity requiring the services of a

trained engineer. Knowledge in the area is essential in routing the water flow. The municipal government through its engineering office could provide those services to the community.

Dumping of garbage, sewage and gray water to storm drains is illegal in the law books of most countries. Due to financial constraints, most cities in developing countries could not provide a sewer system or a high level of garbage collection services. The manual must face the realities of the storm drains being used as combined sewer system.

Objectives of the Guideline

The guideline is primarily intended for development of a low capital cost drainage system concentrating on laterals and interceptors (drainage around the houses and within the settlements) within the affected community. The scale and scope of the system should be within the financial capability of the municipality. The guideline users will be municipal officials, community workers, and educators. The aims of the guideline are:

- (a) to generate general awareness among urban planners, public health workers, municipal officials and community workers of the need for proper drainage facilities in low-income high density housing areas;
- (b) to provide municipal engineers with a guideline for development of design criteria, design methodology, techniques for construction, rehabilitation of existing system, operation, maintenance and material selection for drainage systems in low-income high population density communities. In instances where the municipality may hire a consultant to carry out the design, the guideline provides a checklist of basic items needed for sound evaluation of the consultant's report and working drawings.
- (c) to provide a guideline to community leaders and workers in mobilizing community participation in the inception and planning of the project, provision of manpower during construction, and monitoring of the drainage condition and carrying out routine maintenance work.

Guideline Contents

The guideline will contain four chapters. The whole guide must be developed with less than 50 pages of text.

Chapter I - The main purpose of this chapter is to generate general awareness to needs and problems associated with the absence of proper drainage facilities to urban planners, water resources development officials, municipal officials and community leaders.

While the development of the drainage system within the community calls for direct involvement of the municipal officials and community members, some of the sources and receiving bodies of the flood and wastewaters are outside the community. Urban planners and water resources development officials must be aware of these problems to be able to incorporate them in their programme.

The chapter will include a brief summary of the problem, public health problems, inter-relationship of the problem to other developmental projects such as upstream development, reforestation, water supply, solid wastes collection and disposal, land reclamation, etc. Some pictorials may be presented.

A brief review of diseases due to contaminated stagnant water will be presented. A discussion on the potential spreading of contagious diseases such as malaria to other areas will be highlighted.

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The chapter will close with a brief outline on what the municipality, community and other related institutions could do to solve the problem.

Chapter II - Technical section. This chapter should be written for a person with minimal technical training to understand. Some references may be provided if the reader is interested in obtaining detailed technical knowledge.

The chapter will include a short summary of the methodology in designing drainage systems, such as energy dissipators, basic design criteria, materials used in construction, and maintenance. Some fundamental hydrology and hydraulic principles are briefly described. In addition, this section will include a checklist of what is required in order to properly integrate the area with the overall city development.

This chapter will also include a brief description of construction techniques using manual labour and unsophisticated equipment.

Chapter III - Rehabilitation of existing system. The chapter includes a section on survey of existing drainage systems, evaluation of failures and repair works required, review of the existing maintenance programme, evaluation of equipment requirements, and community involvement for maintenance works.

In preparation of the plans for repair works, the community must be consulted and their involvement during the construction work defined.

Chapter IV - Community participation. This chapter will describe briefly the need for community participation from project inception, construction and maintenance. A guideline in organizing the community to provide labour during construction and maintenance is discussed.

If the community has an existing drainage system, methods for upgrading community involvement in the maintenance of the system will be discussed.

The chapter closes with suggested teaching material for community meetings, schools and adult education classes to impress on the members the need for a proper drainage system, and the construction and maintenance of such systems.

In addition to the four chapters, the guideline will have two Appendices. Appendix A will cover the basic checklist and guidelines to municipal engineers in checking and evaluating the report and design submitted by consultants the municipality may decide to hire. The municipal engineer may be overloaded with other responsibilities and the municipality may decide to contract out the work.

The second Appendix will give some examples of audiovisual materials and teaching aids required for grade school and adult education classes. These audiovisual materials will brief the community on its responsibilities for proper maintenance of the drainage system.

REPORT OF WORKING GROUP IVA. Rationale and Suggested Content of Seven
New Information and Guideline Documents
to be considered for Development in
Phase II of the Project

Topic 1:

COMMUNITY-BASED AND HEALTH-RELATED COMMUNAL
SERVICES AND FACILITIES: FACTORS FOR SUCCESSRationale

Families living in low-income settlement areas, in or near cities, seldom have access to adequate health-related environmental amenities such as proper water supplies and sanitation services to their homes. Ideally, such services should be supplied by the local authorities. Nevertheless, it is accepted that self-help and mutual help at community level can do much to remedy these deficiencies in the immediate future. It is known that some communities have made very successful efforts to establish communal services, either as community enterprises or by encouraging relevant private enterprises. These examples should be explored and evaluated to see if common factors exist which contribute to their success. Identification of these factors could be valuable in promoting the establishment of similar communal services elsewhere.

Suggested Activities

- To make as comprehensive a list as possible of all the community-based communal services known to exist world-wide among low-income settlements of various types, and which may have an impact on family and child health status and environmental hygiene. Examples of types of services are: community latrines and flush toilets; garbage collection and disposal; maintenance of drains and extension of drainage facilities to dispose of surface and domestic waste water; bath-houses; laundry facilities; communal water supplies, water collection and storage; cooking arrangements; communal space heating and hot water services; vegetable growing and small animal husbandry; transport for people and goods; cooperative marketing arrangements of handicrafts and cottage industry products; development of community play areas for children and child minding centres, etc.
- To review a carefully-selected variety of such services in different cultural settings to establish their modes of origin within the community; their process of functioning, including manner of operation, method of financing; and their acceptability.
- To evaluate, according to a few practical criteria, the health and environmental benefits to the community of the services reviewed in relation to the overall circumstances of the particular community.
- To attempt to define from the survey findings the common factors for success which could be used to encourage replicability of suitable communal services elsewhere.

Topic 2:

DESIGN CRITERIA FOR EXTERNAL SPACE IN
HUMAN SETTLEMENTS

Aside from a well designed house and its support systems, every human settlement needs well designed and maintained community spaces, with plants, trees, structures and community furniture. These are crucial to help maintain and upgrade the life of its inhabitants as they deal with the daily, weekly and seasonal requirements outside the immediate control of each family.

In many areas of the world, people build and modify their own houses. Even when governments provide the basic shelter, it is expanded and modified by different family sizes and lifestyles. The space between shelters is left to happenstance and often becomes filled with debris and solid waste. Surrounding alleyways, walkways, streets and open spaces are, in most instances in expanding settlements, not planned.

There are special human needs outside each family dwelling that should be provided. Proper development of these outside spaces can help upgrade the environmental, cultural and physical health by providing a variety of supports. The following preliminary list can be categorized into:

- A. Space planning
- B. Plants and trees
- C. Community structures
- D. Community furniture

A. Space Planning

1. Small pocket parks for senior citizens, women and small children.
2. Playing fields for sports and exercise.
3. Plaza-like spaces for concerts, walking, meetings, holidays and communal events.
4. Vegetable and herbal garden spaces.

B. Plants and Trees

1. Plantings as effective insect control, for example - marigold.
2. Plant trees for shade, wind control, which are also fruit and nut producers.
3. Plant trees for fuel use and pole and community structures and furniture.
4. Plant flowering trees for different sections and streets for beauty and honey production.

C. Community Structures

1. For open air markets.
2. For wind and sun shields, to help create changes in the micro climates of the settlement.
3. For clothes washing.
4. For sun, rain and wind shelters at transportation stops.

D. Community Furniture

1. Benches and tables.
2. Large waste receptacles.
3. Street lighting in set locations.
4. Children's playground equipment.
5. Sports field equipment (poles, screens, etc).
6. Stalls and portable displays for markets and street vendors.

Topic 3:

MEETING THE NEEDS OF MOTHERS AND CHILDREN IN
PLANNING AND SITING OF LOW-COST SETTLEMENTS

Rationale

Mothers and children under five years constitute a considerable proportion of the population of high density low-cost settlements. Furthermore, they spend the largest number of hours within the settlement and are affected more severely by adverse factors.

Planners of housing settlements are most often men who neglect the specific needs of mothers and children when deciding on the siting and design of the individual units. The situation is even more pronounced in unplanned settlements. There is a growing trend to improve the environment of existing settlements and therefore this booklet will deal with those factors which are critical to the wellbeing of mothers and children and which can be of use to planners dealing with new developments or with the upgrading of existing settlements. Guidelines for community-based and intersectoral actions should be included.

Many mothers wish to keep their preschool children with them during the day and perform their domestic duties in company with their children. Thus the routine duties of food procurement and preparation, domestic cleaning and laundering are carried out in conjunction with child-minding. This provides an example of need which requires specific design initiatives. Accidents in the home or in the street close to the home are a major cause of child mortality or disability. Many accidents can be prevented by appropriate design technology.

The guidelines will itemize, and illustrate by anecdotes, the criteria which meet these needs under the following headings:

1. Selection of site of settlement - or modification of characteristics of existing settlement.
2. Space allocation around individual dwellings or small groups of dwellings for domestic activities.
3. Space for larger recreational areas.
4. Factors of shade and sunlight.
5. Space allocation and design within the dwelling to facilitate cleaning, supervision of children during household duties and to minimize home accidents.
6. Design of cupboards, stoves and other items to reduce accident hazards.
7. Accessibility to:
 1. Markets for fresh foods
 2. Health facilities
 3. Public telephone
 4. Day nursery schools

Topic 4:

CITY CLIMATE

Climate in cities is not identical with rural climate of an area for which climatological data is provided in most instances. It is modified by many environmental factors. These are: size, position and density of buildings, houses and other dwellings, width, direction and paving of streets, site, size and type of parks, gardens, sidewalks; species, types and density of plants and trees, water pools, ponds, canals, lakes, rivers; heat generation from food metabolism, work, heating, cooling, refrigerating, motor traffic; and heat from solar irradiation.

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Factors can be identified by system analysis. Each is seen as a climate modifier of relative importance in a changing range order. Climate modification leads to heat islands according to density in one or more parts of cities. They may exert favourable or adverse effects on health and will elicit measures such as air conditioning, causing more generation of heat in tropical cities.

There is much information available on climate of cities in different climatic zones from and through WMO. Meteorologists of national meteorological offices can provide data on demand. The assessment of data in applied climatology depends almost entirely on directions given by health experts who will have to formulate their problems and questions as a first course of action. Up until now both groups have worked without close contacts. Under the heading "Health, Hygiene, City Planning and Life Style", an entirely new field of applied human health climatology could be opened up and developed. It could engage agricultural and plant meteorologists with knowledge in evapotranspiration of plants to work on directions for the choice of plants in cities with regard to the prevailing climate.

Topic 5:

ENVIRONMENTAL HEALTH ASPECTS OF
PLANNING AND URBAN ENVIRONMENT

The document reflects world experience and may be transformed for countries with different levels of the city-building development.

1. Positive and negative aspects of the process of urbanization.
2. Prognostication of the optimum number of population in a modern city.
3. Hygienic aspects of functional zoning of a city's territory (residential, communal, industrial zones, sanitary zones with usual and low-waste technologies).
4. Hygienic criteria of the density of building and density of inhabiting.
5. Problems of the optimum and allowable number of storeys in urban buildings.
6. Substantiation of the optimum and minimum necessary dwelling and total space in a modern apartment.
7. Hygienic aspects of the urban population's way of life, conditioned by different organization of the urban and residential environment.
8. Systematic approach in studying the effect of urban and residential environment quality on human health and living conditions of the population.
9. Problems of preventive sanitary surveillance, as part of general objectives of the city-building.

Topic 6:

CASE STUDIES OF ENVIRONMENTAL HEALTH ASPECTS OF
'UPGRADING' OF LOW-INCOME SETTLEMENTS

Introduction

Perhaps surprisingly, there have been very few studies as to the most serious health problems faced by low-income communities - and even fewer which have sought to identify the environmental factors which contribute to ill health. Yet it has now become common for Third World governments to 'upgrade' low-income settlements - including those on illegally occupied land (squatter settlements), those on illegal subdivision, and inner city tenements. But the design and implementation of such 'upgrading' schemes are in the hands of architects, planners and engineers. And it is very rare for 'health' aspects to be considered explicitly; usually the government personnel involved hope that 'health will be improved'. And no evaluation is undertaken to see whether the 'upgrading' did in fact improve health.

Since large portions of most Third World cities' populations already live in settlements with a great shortage of basic infrastructure and services and since most new city housing is being constructed in unserved, illegal settlements, upgrading will increasingly be the most common public intervention to improve housing and living conditions. The negative effects of bulldozing poor quality settlements is widely recognized. But in an area where government resources are very constrained, it becomes of critical importance first to understand the health and disease control problems faced by low-income communities. Secondly, to design 'upgrading' schemes which explicitly address these health and disease control problems through carefully designed and implemented multi-sectoral inputs. This was essentially the justification for developing the methodology to identify needs, priorities and actions in upgrading environmental health conditions in low-income communities. It now becomes important both to undertake case studies to show the kinds of health problems that low-income groups face and in doing so to field-test this methodology. Such case studies are likely to reveal a very serious level of ill health, high child mortality, etc., which in turn will also help in persuading governments and international agencies to devote more resources to improving conditions and services for low-income groups.

Problem

That planners, architects and engineers do not give adequate attention to environmental issues (including health aspects) in the planning of upgrading of settlements.

Target Audience

Planners, architects, engineers and policy makers involved in the upgrading process.

Rationale

Analysis of a number of case studies will reveal that environmental health problems were not alleviated, or only partially alleviated, by the upgrading process. Awareness of this result will stimulate a demand by the target group for the incorporation of environmental health criteria into the planning of future upgrading projects.

Method

A realistic estimate is that only 3 to 5 upgrading projects can be studied, although ideally a larger and random sample should be studied. Communities where good and comparable data on health and environmental aspects both before and after the upgrading process should be selected for study.

The upgrading process itself should be described, including the amount of attention given to environmental and health aspects in the planning phase. The upgrading plans and process can be evaluated by comparing them to a reference set of environmental health criteria for planning urban settlements, e.g. the output of this Technical Panel.

Topic 7:

A TRAINING KIT IN ENVIRONMENTAL HEALTH FOR COMMUNITY WORKERS

Problem Statement

Many community workers (primary health care workers, community nurses, social welfare workers, development workers, housing officers, staff of non-governmental organizations) lack an adequate awareness of the role that poor housing and environs play in the poor health and high mortality experienced by people in low-income settlements. People in low-income

settlements place a high priority on their own health, and that of their children. There is an unrealised opportunity for community workers to assist communities to improve their health status.

Rationale

Community workers have credibility among the people they serve, and can promote better health in three ways:

1. Teaching people behavioural changes that can alleviate poor health status resulting from poor environmental conditions;
2. Teaching people¹ the importance of environmental conditions in determining health status, thereby enabling communities to petition more effectively for a greater government effort in providing better water supplies, sanitation services, etc; and
3. Assisting communities to work together to tackle their environmental problems themselves by cooperative action.

The proposed kit would focus on three high priority areas: community-based actions to improve environmental health, that might include some material from the document "Child survival in or near cities"; community-based methods of insect and rodent control; and community organization and development strategies (how to organize meetings, workshops and seminars, how to support community groups, and how to fund, install and maintain communal facilities).

Community workers, e.g. primary health care workers, generally receive formal training, or informal training (including on-the-job training), or both. The kit should be suitable for workers who have completed primary school education, who are to be trained either informally, or formally in a training institution.

¹ It is envisaged that the educational process provided by the kit can help create a lobby for improved environmental health among all professionals working in low-income communities and can also reach government decision makers.

REPORT OF WORKING GROUP IV (contd.)B. Suggestions for Phase II

Dr N. Gebremedhin explained the way UNEP works in collaboration with WHO and other agencies in the environmental aspects of human settlements and the need to emphasize diffusion rather than preparation of new guidelines in the second phase. He also gave the participants an idea about the size of possible funding during the biennium 1988-1989 and the composition of the funding as regards convertible and non-convertible currencies. He also explained the catalytic role of UNEP and hence the gradual declining nature of funding as the funded agencies will secure resources to continue the activities.

Mr Novick followed by explaining the structure of WHO and the regional mechanism used to develop and implement its various activities. He also explained the various ways in which WHO assists the countries, and emphasized the high competition that faces various programmes to acquire necessary funding. At the present time 10 countries have already requested RUD funding, and hopefully 40 to 50 countries will do so. He again emphasized the need to develop a plan for diffusion, implementation and evaluation of the produced document and the ones to be produced.

Being aware of the relatively low priorities usually accorded by governments to environmental aspects in general, and more so in the case of slums and squatter settlements, the participants recognized the need to adopt a clear strategy for diffusion in the second phase, with continuous attention (although much less in emphasis) in the development of criteria documents as seen necessary.

The basic approach to develop this strategy was to identify the target audience for the various documents and who will in turn use the material in pilot projects, teaching curricula, training other key personnel, etc.

Six levels of target audience were identified:

- (a) Policy makers - national/international
- (b) Teachers of professionals
- (c) Trainers for community workers
- (d) Municipalities and city government officials
- (e) Community level workers
- (f) Individuals, families and community groups

While documents emphasized one or two target audiences towards whom diffusion should be focused, the following general strategy was suggested:

1. Orientation seminars (country and intercountry) for policy makers to sensitize them to the importance of the issues presented and the need to address the problems and find appropriate solutions for them.

This can best be done with a group of countries who have common problems, similar government machineries and similar levels of development.

Such seminars should aim at motivating the participating countries to use the produced documents in one or more activities that could be assisted by RUD.

ANNEX 4

2. Seminars/workshops could be held for exchange of information between experts in these issues. The objective of such meetings is for the participants to learn from the experience of each other.
3. National workshops for teachers of professionals or trainers for community workers or municipality or city government officials. The contents of the workshop will be tailored to meet the needs of the participants. One major outcome of such workshops should be a plan of action for intended activities in the country which could be assisted by RUD. Such outcome may be development of a pilot project, testing of criteria documents, development of training material for community level workers and community leaders, development of educational material for community members, etc. Participating countries should be given the opportunity to bid for various projects suggested. The selection of participants for the national workshops should reflect the major sectors involved in the issues under consideration. This should also be followed in the selection of the instructors or resource persons to demonstrate the multi-disciplinary and intersectorality natures of the issues discussed and solutions sought.
4. Institutional support is one of the components of the diffusion strategy to enable teaching, training, and research institutions to develop training courses, training materials and develop projects for implementing or testing the criteria documents developed. The multiplier effect of such activity is well known and hence it should be viewed as one of the most cost-effective components of the diffusion strategy. It must be taken into consideration that such institutions bring together multiple disciplines and specializations as well as represent a variety of sectors.

International support need not be large, but the most important criteria should be the identification of an innovative early adopted member of the institute who has the interest, the will and the ability to apply the material but lacks some facilitation, e.g. seed money, small equipment, supplies.

5. Panel members should play the role of catalysts whenever they find such an opportunity. Some programmes have successfully used their advisory committees in such a role on a 'piggy-back' approach, e.g. while panel members on other assignments for WHO or UNEP. Panel members could also assist in the preparation of material for orientation seminars, workshops, teaching and/or training courses.
6. Three to four new criteria documents could be developed for the biennium 1988-1989.
7. The participants identified the need for a number of publications to diffuse the knowledge, concepts and approaches which deal with the health aspects of the environment:
 - (a) a simple comprehensive document (booklet) geared to unspecialized professionals;
 - (b) a public information document which could be distributed in public meetings, exhibitions, conferences or to interested individuals; and
 - (c) a document that can be used for children of school age.
8. The participants briefly discussed the need to focus on a number of countries and the criteria by which such countries should be selected. The rationale for concentrating on a few countries is to realize a reasonable impact for the available scarce resources and hence the criteria for selection of the participating countries should emphasize:
 - The level of readiness of the country to use the produced document, which requires the presence of a dynamic, willing and active focus, be it person, group or institute.
 - The level and prevalence of the problems in which the criteria could assist in diagnosis or solution.
 - The opinion of the Regional Offices of WHO is crucial in selection.

REPORT OF WORKING GROUP IV (contd.)

C. Discussion of New Project on
'Environmentally-sound Approaches
to Community Waste Management'

Mr Gebremedhin explained that there is no shortage of documentation about community waste management, but what was needed was more action-oriented projects which draw from existing documentation which also highlight environmental health aspects. For instance, this Panel might suggest that one or two demonstration projects should be begun, given financial support, documented, and evaluated.

The Panel noted that major advances are being made in food packaging and preservation which may reduce the volume of domestic garbage. Of course, it was also recognized that in many instances food packaging such as banana leaves may remain one of the most common forms of packaging and these may present special problems for disposal. In addition, the Panel also recognized that strategies to re-use, reclaim or recycle materials should take into account the need to minimize capital expenditure (since most city and municipal governments have very little capital investment capacity) and to maximize employment creation. At present, there are already hundreds or even thousands of people in cities whose living is derived from re-using, reclaiming or recycling materials from household wastes. It would certainly be useful to have case studies of innovative ways in which jobs were created, re-use or recycling promoted and capital investment minimized in community waste management schemes.

Dr Litvinov informed the Panel of a major international conference in October 1987 in Budapest on "Low Waste and Non Waste Technology" sponsored by UNEP and ECE. The A.N. Sysin Institute of General and Community Hygiene was the USSR's focal point in preparing for this conference.

The Panel discussed how it might help get the material produced by UNEP and other agencies on this subject into the hands of those who can actually use the information they contain; this returns to points raised in earlier discussions about dissemination. But the Panel also has a special responsibility in emphasizing the environmental health aspects of not having efficient domestic waste management.

Thus, at the level of national government, policy makers must be made aware of the environmental health problems arising from inadequate domestic waste management. This is also a problem in many smaller urban centres too; just because the problem is more visible in large cities, governments may give inadequate attention to domestic waste management outside major cities.

At the level of low-income communities, there is a need for education programmes. Dr E. Quamina gave the example of how in Trinidad and Tobago the public company in charge of solid waste disposal hired someone to use public relations techniques to 'market' community actions and responsibilities - with considerable success.

Dr E. Quano pointed to the problem that existing documentation on problems of domestic waste management still tend to be based on Western approaches and standards. For instance, municipal corporations might still be seeking complex, expensive 36-ton compacting trucks when smaller, cheaper trucks would be far more appropriate to local needs and resources. There is a need to reorient and modify criteria.

Dr Cohen pointed to the fact that the word 'garbage' implies 'something with no value'. Yet domestic garbage usually does contain items of value - as the number of people who make a living sorting material for re-use or recycling demonstrates. It may be that institutional support for material re-use or recycling can both promote employment and lessen disposal problems. One obvious example is the requirement for all bottles or cans to carry a deposit which has been tried with considerable success in several states in USA. It may be that government support for community schemes to reclaim and then re-use or recycle materials could expand employment and lessen the exploitation of those sorting garbage from middlemen.

Experience with community waste management schemes which rely on individual households or small groups to aid material recovery (for instance by pre-sorting their wastes) will only work if it is made easy for them to do so.

Dr Litvinov told the group that the Rector of the Kiev Institute has recently produced a monograph on managing wastes in small urban communities and this document could be translated from Russian, if funds were available to do so.

Dr Cohen also noted that motivating existing groups to take an interest in cleaning up the environment and improving domestic waste disposal can often have a considerable impact. Groups who might be interested include local youth clubs (including boy scouts and girl guides), local schools, business clubs, etc.

The following points can summarize the above discussions:

- (1) The real need for an action oriented demonstration project(s) which are community based in high density low-income areas where simple appropriate and affordable and environmentally sound approaches to community waste management could be implemented and evaluated.
- (2) The need to market successful experiences in the area of waste management, e.g. the case of Trinidad, the USSR, etc.
- (3) While advances in food packaging and preservation could bring drastic changes to waste management in the future, labour intensive innovative approaches in waste management should be strongly considered for developing countries.
- (4) Training should be given great attention since it plays a crucial role in this area.
- (5) There is a need to develop rosters of experts and experiences in this area.
- (6) Human behaviour was mentioned as being the crucial factor in this process, even in the presence of facilities for waste management. The participants felt that sustained success can only be achieved through social marketing in the presence of optimal facilities within the reach of the community.
- (7) Based on the above point, a suggestion for a public relations guidelines for solid waste utilities was presented to the participants. In addition, a suggestion for the development of an educational kit for children was briefly discussed.
- (8) There is a need to change the perception of people of garbage as being of no value and acquaint them with the value of garbage. This may motivate people to properly manage garbage.
- (9) Some community groups could be motivated to participate in cleaning up their communities and benefit from the various items contained in garbage. Such groups could include youth clubs, local schools, business clubs, etc.

ADJUNCT WORKING GROUP REPORT

Proposed Community Intervention
Kit for Insect and Rodent Control

The group noted that the kit as presently developed is innovative and packages important information on insect and rodent control in a unique manner.

However, it is now necessary to produce a revised kit which should take the following points into consideration:

- (a) The kit should be oriented to address the training needs for community health and environmental workers, i.e. it should be worked to become a training aid;
- (b) One section of the kit should contain a booklet which could serve as a training syllabus for community workers;
- (c) The basic format of the 'box' should be retained, i.e. the use of the needle technique should be maintained. So, too, should the use of two sets of sheets, one containing basic information and the other describing practical interventions;
- (d) The kit should deal with a broad spectrum of insect and rodent situations rather than treating specific species;
- (e) Treatment should emphasize environmentally sound methods rather than application of insecticides, etc; and
- (f) The use of durable materials for the box and the sheets was emphasized.

The group noted that representatives of the SUNYAB (Prof. H. Cohen) should be closely associated with the work of revising the kit. Subject to the availability of funds, the group recommends that the WHO/UNEP secretariat arrange and organize a working group meeting to see that the objectives and the goals of the kit are met.

The group also noted the advantage of developing the kit in the Third World countries and to this end suggests to WHO and UNEP that they should consider the following individuals and/or institutions as possible partners in preparing a revised kit.

1. International Centre for Insect Pathology and Entomology (ICIPE), Nairobi, Kenya
2. Centre for Environmental Science and Engineering, Indian Institute of Technology, Bombay, India
3. School of Public Health, New Delhi, India
4. School of Public Health, Karachi, Pakistan
5. Mahidol University, School of Public Health, Bangkok, Thailand
6. Jorge Velasco, Independent Public Institute, La Paz, Bolivia
7. Dr Helio Espinola, rue Marques de Valenca 255, Apt. 401, 30.000 Belo Horizonte, Brazil
8. Dr Wafik Hassouna, SINAI Consultation Group, 50 Mossadak Street, Dokki, Cairo, Egypt
9. Dr Ely A.R. Ouano, Consulting Engineer, P.O. Box 90 MCC, Makati, Philippines

ANNEX 5

10. FEEMA, Río de Janeiro (provides services to the State)
11. COMLURE, Río de Janeiro (provides services to the city)
12. IRRI, Los Baños, Philippines

WHO/UNEP TECHNICAL PANEL ON ENVIRONMENTAL
HEALTH ASPECTS OF HOUSING AND URBAN PLANNING

Second Meeting
Leningrad, USSR
22-29 October 1986

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WHO/UNEP TECHNICAL PANEL ON ENVIRONMENTAL
HEALTH ASPECTS OF HOUSING AND URBAN PLANNING

Second Meeting
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AGENDA

1. Opening
2. Election of Chairman, Vice-Chairman and Rapporteur
3. Adoption of the Agenda
4. Report of Progress: UNEP and WHO
5. Designation of Working Groups for Selected Topics
 - WG I - Health Criteria for Urban and Indoor Environmental Quality
 - WG II - Community-Based Actions in Assessing and Meeting the Environmental Health Needs of Children (Part II)
 - WG III - (a) Access to Life-Saving Services in Urban Areas
(b) Urban Surface Water Drainage in Developing Countries
 - WG IV - Proposals for Promotion and Implementation of Project Information and Guideline Documents and Evaluation of Their Impact at National and Local Levels
- Adjunct Working Group
6. Working Group Sessions
7. Review of Reports of the Working Groups
8. Review and Adoption of the Report of the Meeting
9. Closure

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