

UNITED NATIONS
**ECONOMIC
and SOCIAL
COUNCIL**

Item.
GENERAL

E/CN.14/496
E/CN.14/HOU/81
3 November 1970

Original : ENGLISH



ECONOMIC COMMISSION FOR AFRICA

REPORT OF THE WEST AFRICAN WORKING GROUP OF EXPERTS
ON HOUSE-BUILDING COSTS

(Kumasi, Ghana, 31 August to 11 September 1970)

M70-2591

TABLE OF CONTENTS

	<u>Pages</u>	<u>Paragraphs</u>
PART I		
ORGANIZATION AND ATTENDANCE		
Opening Meeting	1 - 5	1 - 18
Attendance.....	5	19 - 20
Election of Officers.....	5	21
Agenda.....	5 & 6	22
PART II		
ACCOUNT OF PROCEEDINGS		
Country contributions.....	7	24 - 25
Discussions of the problems in plenary session..	7	26
Basic definitions.....	7 & 8	27 - 28
Problems to be tackled.....	8 - 12	29
Methods of tackling the problems.....	12 - 17	30
Group discussions.....	17 - 18	31
Closing of the Meeting.....	18	32
PART III		
SUMMARY OF MAIN RECOMMENDATIONS.....	19 - 21	34
ANNEX		
I. List of Documents Prepared for the Meeting..		
II. List of Participants at the Meeting		

REPORT OF THE WEST AFRICAN WORKING GROUP OF EXPERTS ON
HOUSE-BUILDING COSTS

PART I

ORGANIZATION AND ATTENDANCE

Opening meeting

1. In accordance with resolution 209(IX) adopted at its ninth session, ECA established a work programme for the Housing, Building and Planning Section of the secretariat for 1969-1973 (Doc. E/CN.14/447, projects 54-58). To implement project 56 - the Study of Trends in House-building Costs, - the following meetings of experts on house-building costs were programmed:
2. Meetings of experts:
 - (i) East African Meeting of Experts on House-building Costs (Addis Ababa, 1968);
 - (ii) North African Meeting of Experts on House-building Costs (Tangier, Morocco, 1969);
 - (iii) West African Meeting of Experts on House-building Costs (Kumasi, Ghana, 1970);
 - (iv) Central African Meeting of Experts on House-building Costs (1971).
3. Accordingly in March 1970 ECA, through its Housing Section, invited West African governments to appoint members of a West African Working Group of Experts on House-building Costs. The members of the Group, appointed by the governments concerned, met in Kumasi, Ghana from 31 August to 11 September 1970.
4. The aim of the meetings of experts on house-building costs was to examine in detail the specific factors which contributed to house-building costs and to devise ways and means for reviewing and controlling those factors on a permanent national basis. The results of previous meetings at Addis Ababa (1968) and Tangier (1969) were presented as background information at the experts meeting in Kumasi.

5. The Meeting was held in the University of Science and Technology in Kumasi, Ghana.

6. The pro-Vice Chancellor of the University of Science and Technology, Professor S. Sey inaugurated the Meeting and welcomed the representatives on behalf of the Government of Ghana. He described the occasion as most appropriate to discuss housing costs in view of the worsening housing situation and the apparent ineffectiveness of methods so far used to solve those problems. He wished the Meeting success and hoped that it would provide effective tools for solving the housing problems facing the countries of West Africa.

7. Mr. B.D. Beynon, Deputy Resident Representative, UNDP, Ghana, apologized for the absence of the Resident Representative, who had to be in Accra on the day of the presidential election. He drew attention to the worsening housing situation and the urgent need to provide realistic solutions to those problems. He urged delegates to strive for practical working solutions which resulted in Houses for the People and wished the Meeting success.

8. Speaking on behalf of the Executive Secretary of the ECA, Mr. A.B. Puplampu, Director of the Seminar welcomed the delegates and expressed ECA's thanks to the Government of Ghana in hosting the meeting. He expressed the hope that the meeting would result in action which would not only bring participants together to solve their housing problems but would also produce houses which consumed less of their resources than they did now.

9. On trends in house building costs he said that the most important question facing our countries in the building industry was the problem of high cost. This was due to the fact that building materials were imported and where they were locally manufactured, marketing arrangements were such that their prices were tied up with those of the imported materials. Differences in prices between locally manufactured building materials and imported material were small, and the price advantages of locally manufactured building materials were lost through marketing arrangements controlled by foreign interests. In the land-locked countries, the problem was worsened by high transportation resulting in prices which were two and a half times as much as those in the coastal countries.

10. Costs of building materials were also severely affected by construction budgets which bore no relation to the capacity of the suppliers of building materials, the prices of which shot up when the demands of the construction budget for building materials was known to be higher than the supply capacity. These prices remained high because suppliers were reluctant to reduce their prices when the demand for their supplies was no longer high.

11. The UN would like to draw attention to the need for making reliable estimates of the capacity of the building industry, both in the supply of materials and the execution of projects, so that prices could be stabilized by the steady flow of money commensurate with the capacity into the industry.

12. The investment in housing was directly affected by investment in the following components of the building industry:

- (a) Construction of non-residential buildings for industrial production;
- (b) Construction of buildings such as schools, hospitals and other public buildings for social purposes;
- (c) Investment in basic infrastructure.

Policies for the housing industry affected each of the sectors mentioned above, and vice versa.

13. The shares of investment among these sectors, were greatly influenced by governmental policies and sources of finance, and were therefore sensitive to political and economic changes in a country. The indigenous private financiers tended to invest mainly in high cost dwellings and commercial buildings (shops, factories, hotels, etc.), whereas public investment were directed largely in infrastructure works (roads, main services, railways, etc.), and residential buildings of a social and public character, such as educational, health and administrative institutions. Comprehensive Housing Policies were hard to find.

14. Because of the rapid growth of population and its migration towards the cities, coupled with the fact that private investors tended to concentrate their interest on the more expensive types of dwellings yielding high rents, there was a widespread need for low-cost housing in almost all African countries. It was, therefore, necessary for governments to start promoting

extensive schemes by providing programmes through national housing schemes or funds for such programmes. That has already started in some countries, but it was still on too small a scale.

15. The construction industry in Africa could be expected to have an enormous scope for development. If that development was to be realized the following conditions should be met:

- (i) Government policies should aim at creating favourable conditions for local contractors to ensure efficient organization and management of the construction industry;
- (ii) Efforts must be made to improve the development, use and output of local building materials industries so that supplies were readily available;
- (iii) Policies must be designed to reduce building costs not only through the reduction of the price of building materials by appropriate budgetary policies, but also through increasing labour productivity by the training of personnel in the construction sectors and by the standardization of building components;
- (iv) Land use patterns must be established, reflecting government appreciation of the problem of land, and the cost of developing it efficiently in a rapidly urbanizing environment;
- (v) Sources of local raw materials should be identified, coupled with research and development designed to restore confidence in their use where appropriate.

That list of what governments must do in the field of housing was not new. The problem was how to make our governments move from paper into action.

16. The participants were the chief agents of their governments in housing, and if no action was forthcoming, they should accept the blame and endeavour to correct the position by taking action.

17. A meeting of this nature was not expected to produce immediate results. Its purpose was to focus attention on the problems of costs. If the meeting resulted in the setting up of machinery for the study and review of costs on a permanent basis, the right path would have been taken.

18. Mr. C. Dijkgraaf, the consultant from Bouwcentrum, Rotterdam, conducted a tour of each of the countries attending the meeting. The purpose of that tour which took place in July was to brief the experts on the standard questionnaire and assess their preparedness for the meeting. The consultants tour was made possible by the generous contribution of the Netherlands Government.

Attendance

19. Twenty one experts from the following member States in West Africa attended the meeting: Dahomey, the Gambia, Ghana, Ivory Coast, Mali, Mauritania, Niger, Senegal, The Republic of Togo, Sierra Leone, and Upper Volta.

20. The meeting was directed by Mr. A.B. Puylampu of the Housing Section of the Industry and Housing Division of ECA, assisted by Professor L.M. Giertz, Regional Adviser and two consultants. A representative of WHO was present. A full list of participants is given in Annex II.

Election of Officers

21. Dr. J.W.S. de Graft Johnson (Ghana) was unanimously elected Chairman of the Meeting, Mr. B.A. Beda (Ivory Coast) was elected Vice-Chairman, Mr. Drissa Coulibaly (Mali) and Mr. N.A. Jallo-Jamboria (Sierra Leone) were elected Rapporteurs. Mr. J.A. Silva, consultant (UNDP Housing Expert in Upper Volta), being bilingual was appointed co-ordinator of reports.

Agenda

22. The Meeting examined the provisional Work Programme prepared by the secretariat. After discussion the following work programme was adopted: (Document No. E/CN.14/HOU/66/Rev.2).

Work Programme

Monday, 31.8.1970
Morning

Registration of participants
Opening addresses
Election of officers

Afternoon

Introduction of the subject (E/CN.14/HOU/77)
Agreement on the work programme (E/CN.14/HOU/66/
Rev.1)

Tuesday, 1.9.1970	Presentation of country contributions (to be presented by the participants in approximately $\frac{1}{2}$ hour for each country)
Wednesday, 2.9.1970	
Thursday, 3.9.1970	Discussion of the problems:
Friday, 4.9.1970	- General discussion. Agreement on basic definitions
	- <u>Macro-decisions influencing house-building costs</u>
	- Macro-decisions and resulting activities (E/CN.14/HOU/77, E/CN.14/HOU/45, E/CN.14/HOU/46 and E/CN.14/HOU/46/Add.1)
Saturday, 5.9.1970	Discussions on methodology
Monday, 7.9.1970	- national organization (E/CN.14/HOU/77)
	- sub-regional co-operation
	- classification (E/CN.14/HOU/47)
	- standardization modular co-ordination (TAO/GLOBAL/4)
Tuesday, 8.9.1970	Group discussions on selected subjects
Wednesday, 9.9.1970	Conclusions of the group discussions
	Directives for the Report
	Proposals for recommendations
Thursday, 10.9.1970	Study trip to Akosombo re-settlement site while the Rapporteurs and the secretariat prepare report
Friday, 11.9.1970	Free. (typing of the draft Report)
Morning	Study of the Report; final editing of recommendations
Afternoon	Closing session

PART II

ACCOUNT OF PROCEEDINGS

Country contributions

24. All the participating delegations contributed to the meeting by delivering information on low-cost housing schemes in their countries according to the ECA Standard Questionnaire (E/CN.14/HOU/16/Rev.2).

25. The participants enjoyed the demonstration of audio-visual performances presented by the following:

- (a) U.N.D.P. Housing Expert from Upper Volta on "Prefabrication and Self-help Housing in Latin America";
- (b) U.N. Consultant on physical planning U.S.T. (observer from Ghana) on "Visit to a village";
- (c) Consultant from Bouwcentrum on "Housing in Africa";
- (d) Chief Architect BNETD, Ivory Coast on "the Development of Abidjan"

Discussions of the problems in plenary session

26. As an introduction to the discussions, the secretariat presented the main results of the two preceding meetings of experts on house-building costs (Addis Ababa 1968 and Tangier 1969).

Basic definitions

27. A specific problem known from earlier meetings, arose in the field of semantics. The Experts Meeting in Tangier found it necessary to establish a vocabulary as seen from Annex IV to their report (E/CN.14/460). In establishing international co-operation that problem should be born in mind. The need for a "common language", included also such documentary tools as classification and coding which were indispensable in the flow of information that characterized the building process. The experts meeting in Kumasi accepted the glossary in the document E/CN.14/460 for their future work.

28. For the discussions that followed the experts agreed to use the frame for discussion presented in document E/CN.14/HOU/77. It approached the

problems from two aspects

- problems to be tackled
- methods of tackling the problems

Problems to be tackled

29. After a short presentation of the situation in each country, the first part of the discussions focused on the decisions influencing house-building costs. These were grouped as

- (a) macro-decisions, and
- (b) micro-decisions as defined in document
E/CN.14/HOU/46

(a) The influence of macro-decisions on house-building costs:

- (i) Population development - urbanization, and policies related thereto. Housing conditions were apparently very similar throughout Africa. Improvements in health had led to a high probability of children born now reaching mature age. This had not been followed by the consequent reduction of gross reproduction rates, which had led to an "unnatural" increase in the number of the 'settling-age' group of the population. By nature that increase was some 40 per cent per generation whereas it now had risen to between 85 and 145 per cent in West Africa. That high increase seemed to be the main constraint on development generally, especially on the possibilities of meeting the needs for new housing. Reference was made to the World Bank Statements on economic development as related to population growth and ECA paper (E/CN.14/HOU/78) on the subject. In the ensuing discussion it was pointed out that population development should be considered in relation to the general development and manpower needs of the country. It was agreed that the children born in any year, taking their survival into account, would be used as the base for estimating annual house-building needs a generation (27 years approximately) later.

- (ii) The use of existing domestic natural resources and the reduction of the import content in house-production: another main factor hampering development seemed to be a certain reluctance to adopt housing standards related to the resources available. Less than 20 per cent of the houses needed could be built in many countries where the legislated minimum standards were not yet related to the national resources of the country.

Much more emphasis should be put on the utilization of indigenous raw materials for house-building in order to meet the actual needs of the population. West African countries had not the exporting power needed to generate incomes which would meet the demands of the present legislated minimum standards which depended largely on imported building materials. During the discussion three aspects of the problems involved were stressed:

- The role of the African Development Bank for the establishment of the necessary facilities to exploit the natural resources.
- The need for a national restriction of imported building materials.
- The encouragement of Intra-African Co-operation for the exploitation and production of the necessary building materials from indigenous raw materials.

- (iii) The concept of optimal quality and integrated approach to planning was presented by the consultant from the Bouwcentrum using the document "Building Research and the use of knowledge in Practice" E/CN.14/HOU/46. It elaborated a working method (called the Development Cycle) integrating functional, techno-physical, and techno-economic research with practice to achieve optimal quality. After full discussion of the document it was agreed that the secretariat

would provide the experts with complementary documentation on the subject.

The discussions that followed focussed attention on negotiated and open tendering, as a factors of cost.

There were some disagreement among the experts, as to whether contractors and manufacturers should be invited to participate at the planning stages of projects, especially if such participation resulted in negotiated contracts. After a lengthy discussion it was agreed that negotiated and open tenders had their merits, and must be used accordingly to balance the use value, and the cost of a product to anticipated users, taking into account the overall cost, including production and delivery of the building components.

(iv) Planning and the implementation of plans: The concensus was that a realistic national policy - integrating demographic and social aspects with economic and physical aspects of planning had to be achieved as a base for improvements in the field of house building.

(b) The influence of micro-decisions on house-building costs:

(i) The standard of infrastructural works: The sanitary engineer from WHO explained the relation between plot ratio, net density and the situation of wells, latrines and septic tanks. A few minimum sizes of plots for rural and urban areas were recommended.

It was recognized that basic decisions, such as the physical planning, location of a housing area and the provision of services were factors which had important influences on the costs during design, construction, and use. Attention was drawn to the relevance of the provision of land and the programming of infrastructure with respect to the housing development.

- (ii) The building materials industry and market: After a thorough discussion on the materials used in house-building it was observed that in many cases locally produced materials did not compete in price with imported materials, due primarily to marketing arrangements tied up with imported materials.

It was pointed out that a marketing study could permit the creation of new industries by international co-operation. The African Development Bank was an institution well suited for such a study and its services could be procured at a later stage.

- (iii) Prefabrication: The experts recognized the benefits of prefabrication with respect to the reduction of house-building costs. Attempts should be made to identify and develop those building components which could be subjected to immediate prefabrication. It was noted that prefabrication did not necessarily mean a high degree of mechanisation or the use of heavy elements.

- (iv) Aided Self-help: Among the several steps which must be taken to foster that technique, the following were emphasized.

- The natural desire to own and build houses must be harnessed to the utmost; that was recognized to be the most important factor in mobilizing self-help. Another important factor was the recognition by Government that aided self-help techniques can be used to lower housing costs.

In the discussion it was agreed that governments should not only provide the land, but should place facilities at the disposal of the people to encourage self-help housing.

- Co-operative and individual effort to reduce labour costs: it was recognized after discussion that one of the means of mobilizing self-help was by co-operative societies. The successful start made by the

co-operative housing estates in Tanzania was pointed out as an example worth studying for adoption (Recommendation 2 (b)).

- (v) Finance: The experts recognized that the major bottleneck in the effort to provide more houses for the people was finance. It was regretted that banks were not interested in low-cost housing. The discussion stressed the need for government guarantees for the banks to finance low-cost housing. Some experts drew attention to the small amounts of money which private enterprises were obliged to invest in low-cost housing. It was pointed out that agencies responsible for the budget often neglected the important factors of long-term planning and co-ordination in cost reduction (Recommendation 2(c)). It was emphasized in discussion that those aspects deserved more attention than they had hitherto been given.

The experts discussed the type of encouragement that governments should provide to achieve the maximum mobilization of local capital for investment in low-cost housing.

The following points were specified:

- use of tax incentives for housing bonds
- granting of medium and long-term loans
- establishment of housing societies
- allocation of part of the benefits of private enterprises to housing.

Methods of tackling the problems

30. The discussion of the possibilities for solving the problems listed in the previous paragraph focussed attention on

- (a) National organization;
- (b) Sub-regional co-operation and the techniques used in such co-operation;
- (c) classification;

- (d) standardization and modular co-ordination;
- (e) standard questionnaire and the uniform presentation of information on house-building costs.

(a) National organization

The experts agreed that any attempt to reduce house-building costs could be effective only if there was a well considered and firm national housing policy, integrating all those macro-decisions mentioned in paragraph 29 which influenced the flow of house-production generally. Such integration seemed difficult to achieve if it was not prepared by expert analysis of needs and possibilities.

The experts therefore concluded that in each country there ought to exist one National Housing Centre with the task of collecting all the background information necessary for the different ministries responsible for macro-decisions which had an influence on the organization of a continuous production of low-cost houses for the people. That Centre should be the adviser to the government on an integrated approach to the whole complex of problems involved in "housing, building and planning". It should co-ordinate and direct relevant research activities and be up to date concerning information available from other countries. It should also be the main promotor of transmission of knowledge to be applied in practice, locate bottlenecks and shortcomings in house-production and find the methods of removing them. (Recommendation 2 (a)).

It was agreed during the discussion that the Centres should, through their national governments, seek the service of an expert from ECA, at the appropriate stage. Representatives of the ECA secretariat proposed that the West African countries might ask for scholarships to the special course given by Bouwcentrum, Rotterdam, for the purpose of training teachers of National Housing Centres. The special course was launched at the request of the North African nations upon the recommendation of the Experts on House-building Costs Meeting in Tangier 1969.

(b) Sub-regional co-operation

The economic and technical benefits to be derived by co-operation at regional level were recognized and appreciated. The Working Group in Kumasi took note of the conclusions reached at Tangier. In the interest of co-operation at the regional level, the Working Group in Kumasi decided to recommend the setting up of a Working Group of West African Experts on House-building Costs. The Group also agreed that, in order to ensure that such a body would be active, it was essential to hold regular meetings for the exchange of ideas on problems of House-building: such meetings should be held twice a year in the various centres constituting the Working Group.

It was agreed that every expert would report to the co-ordinator on the facilities available for research in his country. The experts felt that, until governments set up housing centres as recommended, and agree upon the establishment of a permanent working group of West African experts on house-building costs; the work started in Kumasi should continue on an ad hoc basis. For the co-ordination of this work the experts unanimously agreed to ask Dr. J.W.S. de Graft-Johnson, the Director of the Building and Road Research Institute (CSIR), Chairman of the meeting, to serve as co-ordinator, using the facilities of the CSIR as a secretariat for the ad hoc Working Group of West African Experts on House-building Costs, consisting of the experts meeting in Kumasi.

(c) Classification

The secretariat described the present situation in the field of building classification internationally. It had long been recognized that an agreed and generally accepted method of arranging subject-headings for information services was the key to success in the exchange of information. CIB (the International Council for Building Research, Studies and Documentation, consultant to the United Nations) had recommended the use of UDC (Universal Decimal Classification) for general library classi-

fication purposes and a classification system called SfB for arrangement of headings related to building work specifications, building materials and components and the breakdown of building costs. (CIB Report No. 6). ECA had published "Keeping of Documents in Small and Medium Size Building Information Centres" according to the CIB recommendations. This combination of UDC and SfB had also been published by CIB in its periodical "Build International" May 1969. The use of the SfB-system for specifications, listing of building products, analysing needs and possibilities for domestic production of building materials, and finally for cost coding of building activities had been demonstrated in documents E/CN.14/HOU/47 and E/CN.14/460 Annex IV.

The experts, who so far were not familiar with the international development in that field agreed that a joint classification would be of great help in future sub-regional co-operation as well as for national co-ordination of works and decisions, but they did not want to accept any foreign recommendations without first studying the consequences of such acceptance. They decided to recommend the SfB system for further study as proposed by the secretariat. It was emphasized that a system of this kind must also cater for the normal accounting of cost items in construction. Constructors should be involved in the studies to ensure the full benefits of the system. Reference was made to the North-African follow-up of the recommendations made by the experts meeting in Tangier 1969. During 1971 standard card-files in English and French would be produced according to proposals in the report from Tangier (E/CN.14/460 Annex IV). The Ad Hoc Working Group of West African Experts on House-building Costs would be kept informed on the further development in North Africa and internationally through the Co-ordinator.

The secretariat proposed that the tables (Annex III of document E/CN.14/HOU/47) should be filled in two copies: one copy indicating building materials resources available in commercial quantities and the other showing what products were actually used

in each country. The experts agreed to do so on their return home.

(d) Standardization-Modular Co-ordination

The secretariat introduced document "GLOBAL 4" and recommended the acceptance of the international modul = 10 cm.

During the discussion some experts expressed the fear that a changeover from present modular systems in individual countries could lead to expenditure which might not be justified at present.

The majority of the experts, however, agreed that for the future international trade of building components, an accepted module would be of great value.

After thorough discussion the experts agreed to the principle of modular co-ordination. They also agreed that the paper presented by the secretariat (TAO/GLOBAL 4) should be accepted for detailed study and for possible future adoption in the sub-region. It was recommended that other modular systems should also be studied and that the final choice of a modular system for West Africa should be made only after careful analysis of its suitability for the sub-region. (Recommendation 1 (e))

(e) Standard questionnaire and standard presentation of information on house-building costs

The Standard Questionnaire (E/CN.14/HOU/16/Rev.2) and standard information sheet as agreed on by experts on House-building Costs Meeting in Addis Ababa 1968 and in Tangier 1969 were presented.

(f) Regarding the standard questionnaire, it was proposed that additional information should be included such as

- annual income
- annual rent

Some delegates felt a difference should be made between low-income housing and low-cost housing, implying that the latter did not necessarily apply to the low-income group. A knowledge of income

together with cost of housing would indicate whether economic housing had been attained for a given income group.

However after thoroughly discussing that question and the difficulty of defining annual income (which should be left to the socio-economic worker), the group decided that the above information should not be included in the questionnaire. It would be preferable to use separate questionnaires for that purpose. The standard questionnaire was then adopted as presented in E/CN.14/HOU/16/Rev.2.

The information sheet as worked out by the experts in East and North Africa was also accepted for use in West Africa.

Group discussions

31. One day was reserved for group discussions.

The Chairman introduced the subjects for group discussion. These were:

- (i) National Financial Institutions and their effect on house-building costs;
- (ii) Techniques necessary for implementing the programme for reducing house-building costs. The main areas to be covered were:
 - (a) Prefabrication.
 - (b) Aided Self-help.
- (iii) National efforts and policies which need to be directed towards cost reduction in house-building.

For the benefit of spontaneous discussion on those subjects, it was agreed that linguistic grouping should be adopted and that each group should discuss the three subjects. The following grouping was unanimously accepted:

- Group I - Ghana, Gambia and Sierra Leone
- II - Mali, Niger, Senegal and Mauritania
- III - Dahomey, Togoland, Upper Volta and Ivory Coast

In a meeting in plenary session, it was decided that the proposals of the three discussion groups should be included in the recommendations. (Recommendations 3(a), 3(d), 3(e), 2(b), 2(c), and 1(c)).

Closing of the meeting

32. The formal sessions of the meeting were closed on Wednesday, 9 September, with the adoption of the preliminary draft report in plenary session.

Field study tours were made to Akasombo Dam and resettlement villages on Thursday, 10 September. On Friday, a study tour was made to the United Nations Centre for Construction and Housing at Cacavelli, Lome.

PART III

SUMMARY OF MAIN RECOMMENDATIONS

34. The Working Group, after studying the background papers, and discussing the problems as outlined in the paper E/CN.14/HOU/77 passed the following recommendations on low-cost housing for further action by the Governments of the Sub-region and by the ECA secretariat.

Recommendation No.1

The Working Group of West African Experts Meeting at Kumasi 31 August to 11 September 1970 after studying the methods of attacking the problems which affect house-building costs recommends:

- (a) that each country should set up a National Housing Centre which should be manned by multi-disciplinary teams of personnel; this centre will be charged either directly or by organized affiliation - with research, and will be responsible for co-ordinating all physical, technical and economic factors that are essential for both the planning and the implementation of house-building activities;
- (b) the constitution of a permanent Working Group of Experts on House-building Costs for West Africa, which should hold regular meetings twice a year in the various West African participating countries;
- (c) that governments should set up National Housing Schemes in collaboration with the National Housing Centre for the training of skilled labour and future constructors;
- (d) that the SfB system of classification should be adopted for further detailed study by the respective National Housing Centres; the services of an expert on this subject from the ECA should be made available upon request from the governments;
- (e) that the principle of modular-co-ordination should be accepted for detailed study and for possible future adoption by the sub-region. The main aim of this study should be the choice of a module after careful analysis for its suitability to West Africa.

Recommendation No. 2

The Working Group of West African Experts Meeting at Kumasi, 31 August to 11 September 1970 after studying the micro-decisions which affect house-building costs recommends:

- (a) that attempts should be made by the National Housing Centre in collaboration with all the sections of the building industry, to identify and develop those building components which can be subjected to immediate prefabrication, taking local employment conditions into account;
- (b) that governments should place facilities in building materials and professional service at the disposal of low-income groups to encourage self-help housing;
- (c) that governments should encourage the maximum mobilization of local capital for investment in low-cost housing; this could be achieved by the use of tax incentives for housing bonds or the granting of medium and long-term loans at low rates of interest;
 - the governments should also encourage the establishment of Housing Societies with participation of government capital;
 - housing corporations should design housing with a maximum utilization of local materials;
 - a certain portion of the benefits of private enterprises must be allocated to housing and should be administrated by a government agency; this should constitute a part of the National Housing Policy.

Recommendation No.3

The Working Group of Experts on House-building Costs Meeting at Kumasi, 31 August to 11 September 1970 after studying macro-decisions which affect house-building costs wishes to draw attention of governments to the following questions and make the following recommendations:

- (a) that low-cost housing should be given a certain priority in the context of the national development plans;

- (b) that population development should be taken as a base for estimating housing targets but this should not be done in isolation from the general development and manpower needs of the country;
- (c) that Inter-African co-operation for the exploitation and production of the necessary building materials from local resources should be encouraged: in this respect the role of the African Development Bank for the establishment of such productive facilities should be intensified: the development of local building materials industries should be done in conjunction with a national restriction of imported building materials;
- (d) that government policies must give consideration to the legislation and regulation of the requisition and development of land for housing;
- (e) that sound rural housing and community development as well as urban housing should be encouraged by careful location of industries and settlements connected by efficient transport facilities;
- (f) that both, negotiated and open tendering must be used (by promoters) according to their merits; the exclusive use of one or the other must not be encouraged.

ANNEX I

LIST OF DOCUMENTS PREPARED FOR THE MEETING

Background papers and Working Documents

<u>Document No.</u>	<u>Title</u>
	Housing in Africa (UN Publication Sales No. 66.II.K.4)
E/CN.14/460	Report of the Meeting of Experts on House-building Costs, Tangier, September 1969; the Recommendations of this Meeting are now being implemented in North Africa.
E/CN.14/HOU/45	Methods of Cost Assessment in Low-cost Housing; a paper presented for the experts meeting in Tangier but equally valid for the Meeting in Kumasi.
E/CN.14/HOU/46	Building Research and the Use of Knowledge in Practice; fundamental paper for the discussions on "integrated approach", "optimal quality" and "the development cycle" - a Bouwcentrum contribution.
E/CN.14/HOU/46/Add.1	Cost Analysis for Price Reductions in Low-income Group Housing; a summary with conclusions from the research of the National Institute for Physical Planning and Construction Research in Ireland.
E/CN.14/HOU/47	Relation between Cost Coding, Bills of Quantities, Standard Specifications and General Information Services; an explanation of the use of "UDC + SFB" classification as recommended by CIB. "Keeping of Documents in Small and Medium Size Information Centres" is attached to this paper.
E/CN.14/HOU/77	Introductory Note by the secretariat, West African Sub-regional Working Group of Experts on House-building Costs.
TAO/GLOBAL/4	Modular Co-ordination in Housing; a Paper prepared by the UN on the basis of international recommendations made by several international committees.
E/CN.14/HOU/16/Rev.2	Standard Questionnaire, as agreed upon by experts in Addis Ababa 1968 and Tangier 1969.

Two more documents are attached for your information although they may not be of direct interest for the discussions in Kumasi:

E/CN.14/416

Report of the Meeting of Experts on House-building Costs, Addis Ababa - 23rd April to 29th April 1968; the recommendations for standard presentation of post-calculations of housing projects made by this meeting is valid for East Africa and North Africa.

E/CN.14/HOU/48/Rev.1

A review of North African Country Monographs:

- Add. 1 Libya
- Add. 2 Sudan
- Add. 3 UAR
- Add. 4 Algeria
- Add. 5 Morocco
- Add. 6 Tunisia

In addition, the following contributions were received:

- "- Habitat Traditionnel en Haute Volta."
- Papers distributed by the Building and Road Research Institute.
- Papers distributed by the Department of Housing and Planning Research.
- "20 Plans de Maisons en Banco Ameliore" (Upper Volta).

ANNEX II

LIST OF PARTICIPANTS/LISTE DES PARTICIPANTS

MEMBERS/MEMBRES

Dahomey	Mr. N. Quenum Ingenieur des Travaux Publics Direction des Travaux Publics B.P. 351 Cotonou
The Gambia	Mr. A.S. Batchilly • Chief Building Control Officer Physical Planning and Building Control Division Ministry of Local Government, Lands and Mines Bathurst
Ghana	Dr. J.W.S. de Graft-Johnson Director Building and Roads Research Institute Kumasi
Ivory Coast	Mr. B.A. Beda Conseiller Technique du Ministre de la Construction Ministère de la Construction et de l'Habitat Abidjan Mr. Kone Banga Charge des Programmes de Construction à la SICOGI B.P. 1856 Abidjan
Mali	Mr. Drissa Coulibaly Directeur de l'Habitat Ministère de Développement Industriel et des Travaux Publics Bamako
Mauritania	Mr. Koita Fodie Chef du Bureau d'Etudes Service des Travaux Publics Nouackchott
Niger	Mr. Bako Moussa Directeur Travaux Publics et Urbanisme Niamey

**SPECIALIZED AGENCIES/
AGENCES SPECIALISEES**

WHO

Mr. Max Roy
World Health Organization
Liaison Office
United Nations Economic Commission For Africa
Addis Ababa
Ethiopia

CONSULTANTS

Mr. Julio Silva
United Nations Expert
United Nations Development Programme in Upper Volta
Ouagadougou
Upper Volta

Mr. C. Dijkgraaf
Architect
Bouwcentrum
Postbus 299
Rotterdam
The Netherlands

OBSERVERS/OBSERVATEURS

Ghana

Mr. Rex Akinbolu
Faculty of Architecture
University of Science and Technology
Kumasi

Mr. T.G. Ingersoll
Faculty of Architecture
University of Science and Technology
Kumasi

Mr. V. Mahadevan
Senior Architect
Public Works Department
Kumasi

Mr. R.K. Mensah
Quantity Surveyor
Ghana Housing Corporation
Accra

Mr. J. Nutsugah
Architect
Building and Roads Research Institute
Kumasi

OBSERVERS/OBSERVATEURS
(CONT'D)

Ghana

Mr. D.J. Owusu
Building and Roads Research Institute
Kumasi

Mr. M.F. Pfister
Faculty of Architecture
University of Science and Technology
Kumasi

Mr. G.N.S. Sastry
Quantity Surveyor
Public Works Department
Kumasi

Mr. A. Subbakrishniah
United Nations Technical Expert
Faculty of Architecture
University of Science and Technology
Kumasi

Mrs. M. Tamakloe
Faculty of Architecture
University of Science and Technology
Kumasi

Senegal

Mr. M.L. N'Diaye
Senegalese Embassy
Accra
Ghana

Sierra Leone

Mr. N.A. Jallo-Jamboria
Senior Architect
Ministry of Works
Freetown

Togo

Mr. Ekoué Hagbonon Raphael
Architecte Direction Travaux Publics
Lomé

Upper Volta

Mr. Abel-Isaac Traore
Architecte
Direction Travaux Publics
Ouagadougou

UNECA SECRETARIAT

Mr. A.B. Puplampu
Director of the Meeting
Addis Ababa
Ethiopia

Professor L.M. Giertz
Regional Adviser on Research, Documentation
and Training
Addis Ababa
Ethiopia

Mrs. D. Visier
Interpreter

Miss Molenveld
Interpreter

Mr. J. Woronoff
Interpreter

Mr. F. Huardeaux
Interpreter