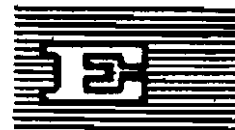


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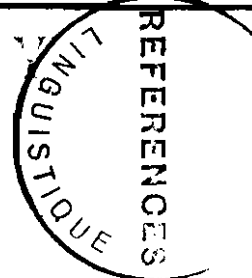
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Eighth session
Lagos, 13-25 February 1967



REPORT OF THE SECOND UNITED NATIONS
REGIONAL CARTOGRAPHIC CONFERENCE FOR AFRICA
Tunis (Tunisia), 12-24 September 1966

M66-1897

CONTENTS

CHAPTER I. ORGANIZATION OF THE CONFERENCE	<u>Page</u>
Terms of reference	1
Host country	1
Attendance	1
Official addresses	7
Adoption of the rules of procedure	7
Officers of the Conference	7
Agenda	8
Establishment of technical committees	9
Officers of the technical committees	9
Establishment of a working group	10
Credentials	10
Votes of thanks	10
Closing session	10
 CHAPTER II. RESOLUTIONS ADOPTED BY THE CONFERENCE	 12
1. Third United Nations regional cartographic conference for Africa	12
2. Question of organization of an ECA cartographic committee	13
3. Promotion of interest in cartographic work	13
4. Seminar on cadastre	14
5. Hydrographic services	14
6. Establishment of training, operational and research centres for Africa	15
7. Information bulletin	15
8. Geodetic satellite	16
9. Surveying in dense forest areas	16
10. Production of topical maps and national atlases	17
11. Production of special maps and atlases for Africa	17
12. United Nations conference on the standardization of geographical names	17
13. Vote of thanks to the Government of Tunisia	18
14. Votes of thanks to the Economic Commission for Africa	18
 ANNEXES	
I. Report of Committee I on geodesy and hydrography	
II. Report of Committee II on photogrammetry and topography	
III. Report of Committee III on special mapping	
IV. Report of Committee IV on preparation and reproduction of maps	
V. List of documents issued for the Conference	

CHAPTER I

ORGANIZATION OF THE CONFERENCE

Terms of Reference

1. The Second United Nations Regional Cartographic Conference for Africa held in Tunis, Tunisia, from 12 to 24 September 1966 was convened by the Executive Secretary of the Economic Commission for Africa in pursuance of resolution 1 of the First United Nations Regional Cartographic Conference for Africa held at Nairobi, Kenya, in 1963; that resolution was endorsed by the Standing Committee on Industry, Natural Resources, and Transport of the Economic Commission for Africa in December 1963.

Host Country

2. The Government of Tunisia made the physical arrangements and provided the meeting facilities.

Attendance

3. The following is the list^{1/} of representatives of governments of member and associate member States of the Economic Commission for Africa, observers from other governments and observers from specialized agencies and other international organizations.

^{1/} In order to facilitate the exchange of correspondence, the title and the names of the services have been reproduced in this list in the language in which they were communicated to the secretariat by the participants.

A. MEMBERS AND ASSOCIATE MEMBERS OF THE ECONOMIC COMMISSION FOR AFRICA

Cameroon

Mr. B. Marty
Directeur du Service géographique

Central African Republic

Mr. M. Dubois
Conseiller Technique

Chad

Mr. R. Pommeraud
Directeur de l'Institut géographique

Congo (Kinshasa)

Mr. A. Kengebele
Sous-directeur de l'Institut géographique
(Chairman of the Delegation)

Mr. E. Nzungu
Chef de bureau à l'Institut géographique

Ethiopia

Mr. Teye Reta
Director of the Mapping and Geography
Institute (Chairman of the Delegation)

Mr. Angaw Duguma
Chief of Cartographic Dpt.,
Mapping and Geography Institute

France

Mr. G. L. ...
Directeur de l'Institut géographique
national (Chairman of the Delegation)

Mr. R. Janicot
Ingénieur général à l'Institut géographique
national

Mr. F. Bonnet-Dupeyron
Inspecteur général des Recherches scienti-
fiques

Mr. L. Delienne
Ingénieur général géographe honoraire

Mr. J. Combroux
Chef du Service cartographique
Office de la Recherche scientifique et
technique d'outre-mer

Gabon

Mr. De Masson d'Autume
Conseiller Technique

Ghana

Mr. R.J. Simpson
Chief Survey Officer
(Chairman of the Delegation)

Mr. S.A. Anang
Chief Draughtsman of Survey Division

Ivory Coast

Mr. A. Cissé
Directeur adjoint de l'Institut géographique

Kenya

Mr. P.P. Anyumba
Director of Surveys
(Chairman of the Delegation)

Mr. J. Loxton
Assistant Director of Surveys

Liberia

Mr. J.L.F. Sawyerr
Chief, Liberian Cartographic Service -
Bureau of Natural Resources and Surveys

Madagascar

Mr. E. Tarrade
Directeur de l'Annexe de l'Institut
géographique national
(Chairman of the Delegation)

Mr. Rakotonirina
Chef du Service topographique

Mali

Mr. D. Traoré
Chef de la Section de cartographie

Mauritania

Mr. Habib Ould Ely
Chef du Service topographique

Mauritius

Mr. A.P. Rault
Acting Chief Surveyor

Morocco

Mr. M. Naceur
Directeur CFST
(Chairman of the Delegation)

Mr. A. Hakam
Chef du Service Géographique

Niger

Mr. C.Jean
Directeur du Service topographique

Nigeria

Mr. R.O. Coker
Director of Federal Surveys
(Chairman of the Delegation)

Mr. G.C. Odumodu
Acting Assistant Surveyor General
Eastern Nigeria

Sudan

Mr. M.A. El Futuh
Chief Survey Officer, Topographic Surveys

Tanzania

Mr. B.A. Sikilo
Assistant Commissioner for Surveys
(Chairman of the Delegation)

Mr. W.L. Dickson
Commissioner for Surveys

Togo

Mr. G. Adama
Chef du Service topographique

Tunisia

Mr. S. Benghachane
Ingénieur principal, Chef du Service
topographique
(Chairman of the Delegation)

Mr. M. Charrad
Chef du Service géographique des forces
armées

Mr. O. Ghedira
Ingénieur au Service topographique

Mr. A. Kallal
Ingénieur

Mr. Y. Somrani
Service géographique des forces armées

Mr. Azzouz
Chef du Service géologique

Mr. R. Belaid
Ingénieur au Service pédologique

Mr. A. Souissi
Ingénieur

Mr. M. Chaabouni
Ingénieur des Travaux d'Etat

Mr. Ben Mahmoud
Ingénieur des Travaux d'Etat

Melle J. Chiche
Cartographe-géographe au Centre d'Etudes de
recherches économiques et sociales (CERES)

Mr. Ben Lassoued
Ingénieur des Travaux d'Etat

Mr. Ben Youssef
Ingénieur des Travaux d'Etat

Mr. T. Essid
Ingénieur des Travaux d'Etat

Melle L. Monni
Ingénieur géologue au Service géologique

Mr. Ben Abdesslem Mohamed
Ingénieur des Travaux d'Etat

Mr. Khamassi
Service topographique

Mr. S. Laboca Okeo
Commissioner of Lands and Surveys

Mr. D.E. Warren
Deputy Director, Directorate of Overseas
Surveys

Uganda

United Kingdom

B. OBSERVERS FOR GOVERNMENTS, NOT MEMBERS OF THE ECONOMIC COMMISSION FOR AFRICA

Czechoslovakia

Mr. Y. Kouba
Ingénieur cartographe à l'Office Central
pour la géodésie et la cartographie

Federal Republic of Germany

Dr. H. Knorr
Director, Institute for Applied Geodesy

Dr. Beck
O. Reg Verm. Director

Dr. G. Bischoff
Geologist, Free University of Berlin

Mrs. Herta Vomstein
Chief, Africa Section
German Foundation for Developing Countries

Mr. G. Winkelmann
Chief Engineer

Italy

Mr. A. Mara
Chargé d'Affaires d'Italie à Tunis

Mr. M. Cunietti
Professeur d'Université

Mr. E. Dragone
Chef du Bureau Commercial de l'Ottica
Meccanica Italiana

Dott. Landolfo Landi
Sales Manager of photogrammetric Dept. of
Off. Galileo

Mr. V. Negroni
Ingénieur

Netherlands

Prof. A.J. van der Weele
International Training Centre for
Aerial Surveys

Switzerland

Mr. L. Hardegen
Ingénieur géomètre

Union of Soviet Socialist Republics

Mr. L. Kachine
Vice-Directeur de la Direction centrale de
géodésie et de cartographie

Mr. S. Saliaev
Ingénieur

Mr. V. Nikiforov
Ingénieur

Mr. E. Khoudjakov
Membre du Conseil national des cartographes

United States of America

Dr. C.E. Percy
Geographer, US Dept. of State

Mr. A.F. Striker
Chief Branch of Cartography
US Geological Survey

Mr. M. Burrill
Director, Office of Geography, Dept. of
Interior

Mr. F.A. Clemens
Assistant to Director of Operations, Aero-
nautical Chart and Information Centre, USAF

Mr. W.S. Davis
Cartographer, US Naval Oceanographic Office

Col. J.T. O'Donnell
Col., USAF

Mr. M.K.W. Rinehart
Cartographer

C. UNITED NATIONS SPECIALIZED AGENCIES

International Civil
Aviation Organization

Mr. James R. Park
Chief, Aeronautical Information Services and
Aeronautical Charts

United Nations Educational,
Scientific and Cultural
Organization

Mr. M. Batisse
Chief, Division of Natural Resources

World Meteorological
Organization

Mr. M. Ayadi
Directeur du Service de la Météorologie
nationale, Tunisie

D. INTER-GOVERNMENTAL ORGANIZATION

International Hydrographic
Bureau

A. Santos Franco
Directeur du Bureau Hydrographique
International

E. INTERNATIONAL NON-GOVERNMENTAL SCIENTIFIC ORGANIZATION

Association of African
Geological Surveys

Mr. A. Azzouz
Chef du Service Géologique

Mr. Lombardi
Secrétaire Général

F. UNITED NATIONS SECRETARIAT

- (1) Headquarters Mr. H. Ureta
Chief, Cartographic Section
Department of Economic and Social Affairs
- (2) Economic Commission
for Africa Mr. R.K.A. Gardiner
Executive Secretary
- Mr. G.E.A. Gardner
Head, Natural Resources and Transport
Division
- Mr. T.L. Tchang
Regional Cartographic Adviser in Africa
(Executive Secretary of the Conference)
- Mr. C. Antoun
Cartographer
(Technical Secretary of the Conference)

Official Addresses

4. Mr. R.K.A. Gardiner, Executive Secretary of the Economic Commission for Africa opened the Conference on behalf of the Secretary-General of the United Nations and ECA. His Excellency Mr. Ahmed Nourredine, Secretary of State for Public Works and Housing of the Republic of Tunisia gave an opening address.

Adoption of the Rules of Procedure

5. The Conference adopted the provisional rules of procedure prepared by the secretariat of the Economic Commission for Africa (E/CN.14/CART/148); these were similar to those of the First Conference.

Officers of the Conference

6. The Conference elected the following officers:

President:	Mr. Sellu (Tunisia)
Vice-Presidents:	Mr. P.P. Anyamba (Kenya)
	Mr. Alpha Cissé (Ivory Coast)
Rapporteur:	Mr. Bernard Marty (Cameroon)

Agenda

7. The Conference had before it the provisional agenda prepared after consultations which the Executive Secretary of the Economic Commission for Africa had with the African Governments on 15 February 1966.

8. The final agenda as adopted by the Conference is reproduced below:

1. Opening addresses
 2. Adoption of the Rules of procedure
 3. Election of officers
 4. Report on credentials
 5. Adoption of the agenda
 6. Organization of work
 7. Progress reports by countries on their cartographic activities in Africa since the First Conference
 8. Reports of the organizations concerned on progress made in the fields covered by the resolutions or recommendations of the First Conference
 9. Question of establishment of an ECA cartographic committee
 10. Development of national cartographic services
 11. Projects of regional interest
 - (a) Measurement of Arc 12° North
 - (b) International centre for training in integrated survey of natural resources and related recommendations
 - (c) Scientific research and training centres in Africa for facilitating and accelerating the exploitation of natural resources
 12. Technical questions on basic mapping
 - (a) geodetic surveying
 - (b) aerial photography, Photogrammetry and topographical mapping
 - (c) cadastral survey
 - (d) hydrographic surveying
-

13. Technical questions on thematic mapping
14. Technical questions on preparation and reproduction of maps
15. Report of the Conference

Establishment of Technical Committees

9. The Conference established four technical committees to deal with the technical items of the agenda. The allocation of these items is given below:

Committee I

Geodesy and hydrography Items 12 (a) and 12(d)

Committee II

Photogrammetry and topography Items 12 (b) and 12(c)

Committee III

Thematic maps Item 13

Committee IV

Preparation and reproduction of maps Item 14

Officers of the Technical Committees

10. The following list contains the officers elected for the four technical Committees:

Committee I

Chairman	Mr. S. Labeca Okeo	(Uganda)
Vice-Chairman	Mr. A. Kengebele	Congo (Kinshasa)
Rapporteur	Mr. R.J. Simpson	(Ghana)

Committee II

Chairman	Mr. R.O. Coker	(Nigeria)
Vice-Chairman	Mr. G. Adama	(Togo)
Rapporteur	Mr. Taye Reta	(Ethiopia)

Committee III

Chairman	Mr. A. Hakam	(Morocco)
Vice-Chairman	Mr. J.L.F. Sawyerr	(Liberia)
Rapporteur	Mr. F. Bonnet-Dupeyron	(France)

Committee IV

Chairman	Mr. E. Tarrade	(Madagascar)
Vice-Chairman	Mr. M.A. El Futuh	(Sudan)
Rapporteur	Mr. M.R. Pommeraud	(Chad)

Establishment of a Working Group

11. The Conference established a small working group to consider item 9 of the agenda and to make proposals to the Conference for the setting up of an ECA Cartographic Committee as well as for its terms of reference and composition. This working group was composed of the President and Vice-Presidents of the Conference, the Chairman of the four technical committees and representatives of the Central African Republic, Chad, Ghana, Mali, Mauritania, Tanzania, Togo and Tunisia, as well as Mr. Tchang, Executive Secretary of the Conference.

Credentials

12. The President of the Conference reported that the Credentials Committee, composed of the President and the Vice-Presidents, had examined the credentials submitted by the delegations and found them in order.

Votes of Thanks

13. The Conference adopted two resolutions expressing its appreciation to the Government of Tunisia and the Economic Commission for Africa.^{1/}

Closing Session

14. The Conference noted with satisfaction that the work was carried out with smoothness, efficiency and devotion, as was emphasized by the heads of the delegations of the Congo (Kinshasa), Liberia and Nigeria

^{1/} Resolutions 13 and 14 (Chapter II, page 13)

on behalf of the African countries. Mr. Selim Benghachame, Head of the Tunisian delegation and President of the Conference, thanked all delegations, all observers, the ECA secretariat and Tunisian services for their co-operation, which had greatly contributed to the success of the work.

CHAPTER II

RESOLUTIONS ADOPTED BY THE CONFERENCE

15. The discussions of the technical committees on the items of the agenda submitted to them, as well as conclusions reached, are outlined in the reports of the four technical committees, which appear in annexes I to IV of this report. The deliberations of the Conference on the other items of the agenda, as well as those of the technical committees, led to the formulation of resolutions, the full texts of which are reproduced in this chapter. Technical papers submitted to the Conference will appear in volume 2 of the publication on the Conference. Annex V contains a list of documents distributed at the Conference, including reports on activities, background papers and technical papers submitted by participating governments and international organizations for consideration or information in connexion with the various items of the agenda.

REGIONAL CO-OPERATION

1. Third United Nations Regional Cartographic Conference for Africa

The Conference,

Considering the usefulness and importance of regional cartographic conferences for Africa,

Noting that it is in the interest of African countries to meet periodically to exchange ideas, assess the progress made and devise together appropriate measures concerning their future actions,

Recommends that the Economic Commission for Africa convene a third United Nations Regional Cartographic Conference for Africa not later than 1969,

Recommends, further, the insertion in the provisional agenda of an item worded as follows: "Report of the member governments and organizations concerned on progress made in fields covered by resolutions or recommendations at the last Conference".

2. Question of organization of an ECA cartographic committee

The Conference,

Having examined

(a) Resolution 600 (XXI) of the Economic and Social Council on the possibility that the regional economic commissions might set up cartographic committees, and (b) Resolution 4 of the First United Nations Regional Cartographic Conference for Africa,

Noting with satisfaction the great interest that participants in the present Conference have shown in this matter,

Considering that the tasks of such a committee would be:

1. To assist or advise ECA and the Member States in the study and establishment of programmes of cartographic work, and, when appropriate in the implementation of such programmes;
2. To assist ECA in promoting liaison between African Governments with regard to cartographic work;
3. To study ways and means of promoting the interest of governmental authorities at higher levels in cartographic work;
4. To study the standardization and co-ordination of cartographic work in Africa;
5. To ensure that conferences are held at regular intervals and to make preparations for conferences;

Expresses the hope that ECA will examine this matter at its next session and that it will study the possibility of taking practical steps to set up a small standing committee under the authority of ECA.

DEVELOPMENT OF NATIONAL CARTOGRAPHIC SERVICES

3. Promotion of interest in cartographic work

The Conference,

Considering the highly important role of cartography in the economic development,

Recommends the Economic Commission for Africa to study ways and means of creating greater interest in cartographic work among African governmental authorities and technical co-operation organizations.

4. Seminar on Cadastre

The Conference,

Convinced of the role of a cadastre may play in the economic development of a country,

Aware of the difficulties and problems encountered in the establishment of cadastres in African countries,

Noting that cadastres have been established by modern methods in certain African countries,

Recommends the Economic Commission for Africa to promote in the near future the convening of a meeting in the form of a seminar of the countries concerned to study ways and means of establishing and organizing a cadastre.

5. Hydrographic Services

The Conference

Considering that it is convenient to follow up resolution No. 9 of the First United Nations Regional Cartographic Conference for Africa;^{1/}

Considering the various technical difficulties inherent in the creation of a hydrographic service;

Considering that the International Hydrographic Bureau is in a position to offer technical advice to those interested in creating such a hydrographic service;

Recommends the African Maritime Nations, interested in creating their hydrographic services, to seek the help that the International Hydrographic Bureau could give in the form of technical advice.

^{1/} E/CN.14/INR/40 page 8.

REGIONAL PROJECT

6. Establishment of Training, Operational and Research Centres for Africa

The Conference,

Considering the necessity for further researches into the problem of aerial photography, surveying and mapping in Africa;

Realising that these researches can be carried out more appropriately in Africa where the problems exist,

Recommends that the Economic Commission for Africa should pursue more vigorously the establishment in Africa of centres for training in photogrammetry and airborne geophysical surveys and joint centres for specialized services in surveying and mapping.

Recommends further that the Economic Commission for Africa should make and implement plans so that one of these centres would include a comprehensive research centre covering all aspects of aerial surveys;

Invites UNESCO, the Special Fund, other multilateral and bilateral agencies to assist the Economic Commission for Africa in the design and establishment of the research Centre.

EXCHANGE OF INFORMATION

7. Information Bulletin

The Conference,

Noting with great interest the establishment of the Map documentation and reference centre at ECA,

Calls on all member countries to provide this Centre with a copy of published maps, map catalogues and annual reports,

Recommends that Economic Commission for Africa prepare an analytical list by speciality and by country of origin in the form of a six-monthly or yearly bulletin to be sent to Member States to sum up the progress achieved in each country and to serve as a means of liaison between Conferences.

GEODESY

8. Geodetic Satellite

The Conference,

Recognizing

- (a) The need for a common geodetic datum throughout Africa,
- (b) That connexions have not been made between the several geodetic networks now existing in Africa,
- (c) The potential benefits that can be obtained from satellite observations towards establishing a common datum over vast areas and connecting separate geodetic networks,
- (d) The scientific value of geodetic satellite programmes for use in determining the true size and shape of the earth;

Noting that geodetic operations using satellites have already been carried out by a certain number of countries,

Recommends that

1. African countries encourage and support the use of satellites for geodetic observations for establishing a common geodetic datum for Africa;
2. Countries participate in making geodetic ties between geodetic satellite observation stations and their local control authorize release of the resultant data to the international scientific community for the determination of the true size and shape of the earth.

9. Surveying in Dense Forest Areas

The Conference,

Noting the difficulties raised by the use of present survey methods in dense tropical forests and in areas in which meteorological conditions are almost always unfavourable for aerial photography,

Recommends Economic Commission for Africa to encourage institutes and bodies engaged in scientific research to study suitable methods and instruments for the solution of this problem.

PRODUCTION OF SPECIAL MAPS

10. Production of Topical Maps and National Atlases

The Conference,

Recognizing the urgent need for topical maps and national atlases for the study and promotion of the natural resources inventories of the African countries;

Noting the difficulties that may be encountered by the cartographic agencies in collecting information from the specialists concerned;

Recommends that Member States take the necessary steps to co-ordinate the various scientific work required for the compilation and publication of these maps and atlases.

11. Production of Special Maps and Atlases for Africa

The Conference,

Considering the scientific and technical difficulties involved in preparing up-to-date topical maps, particularly by agencies based outside the countries concerned,

Stressing the importance of presenting only accurate and up-to-date information in such maps,

Invites Economic Commission for Africa to call on the agencies wishing to prepare atlases and similar publications covering areas outside their normal sphere of operations to consult the national mapping and scientific authorities.

GEOGRAPHICAL NAMES

12. United Nations Conference on the Standardization of Geographical Names

The Conference,

Noting that the Economic and Social Council has decided to convene a United Nations Conference on the Standardization of Geographical Names for August 1967;

Aware of the fundamental importance of the above-mentioned Conference;

Urges the countries of the region to participate in the above-mentioned Conference,

Recommends these countries to set up national committees with a view to drawing up lexica of geographical names according to the practices followed in their respective countries.

VOTES OF THANKS

13. Vote of thanks to the Government of Tunisia

The Conference,

Aware of the considerable work involved for the host country in the organization of such a meeting,

Appreciative of the welcome given to it,

Expresses to the Tunisian Government and services its very warm gratitude for the efforts made to ensure the success of its work and for the cordial hospitality afforded to its members.

14. Vote of thanks to the Economic Commission for Africa

The Conference,

Conscious of the amount of work involved in preparing and arranging the Conference and in providing the necessary secretariat,

Thanks the Economic Commission for Africa for having put at the disposal of the Conference the facilities and staff which have enabled it to carry out its work under the most favourable conditions.

ANNEX I

REPORT OF COMMITTEE I

Geodesy and Hydrography

Geodesy - Item 12(a)

1. The Committee considered the technical papers and held discussions on the following subjects: non-conventional geodesy, conventional geodesy; airborne methods, connexion of national levelling networks and common geodetic datum for Africa.

Non-conventional geodesy

2. The Committee considered the following papers:

- (a) Geodetic flare triangulation (France) - E/CN.14/CART/156
- (b) Geodetic connexion between France and North Africa by simultaneous sighting of the Echo I artificial satellite (France) - E/CN.14/CART/157
- (c) Satellite triangulation (USA) - E/CN.14/CART/191
- (d) The US Army sequential collation of range geodetic satellite system (USA) - E/CN.14/CART/195 and E/CN.14/CART/221

3. With regards to Flare triangulation it was reported that this method had been successfully used in Denmark and in Norway in summer and early spring, also in the Bahama-Florida Connexion as well as in the Azores. It was pointed out that the method was best suited to an extensive area under favourable conditions if it was to be economical and accurate.

Conventional geodesy

4. The Committee considered the following papers:

- (a) Astro-geodetic activities in the "Institut fur Angewandte Geodäsie" (Germany) - E/CN.14/CART/201
- (b) Scale checking in first-order triangulation nets (Germany) - E/CN.14/CART/202
- (c) Simultaneous determinations of longitude and latitude in Africa with the prismatic astrolabe (Fed. Rep. of Germany) - E/CN.14/CART/203

- (d) Electromagnetic distance measurement in the US Geological Survey (USA) - E/CN.14/CART/206
- (e) Survey instruments and methods in the United States of America (USA) - E/CN.14/CART/215
- (f) Possibilities for establishing horizontal control over considerable areas (USSR) - E/CN.14/CART/225
- (g) Geodesy in the Ivory Coast (Ivory Coast) - E/CN.14/CART/189.

5. The Committee concurred that traditional methods of geodesy were still good and economical for geodetic work at national level. Electro-magnetic distance measurers could cover extensive areas with adequate controls at reasonable cost. It also noted that there were still many areas where, due to dense forest, mainly conventional methods could provide practical solutions.

Airborne methods

6. The Committee considered two papers:

- (a) Mapping from airborne electronic control (USA) - E/CN.14/CART/194
- (b) Aerodist - The flying chairman (Canada) - E/CN.14/CART/207

It was noted that airborne methods had been successfully employed by the USA and Canada.

Connexion of national levelling networks

7. The Committee considered the background paper submitted by Cameroon on the subject (E/CN.14/CART/176) and heard the difficulties often encountered in carrying out such work. The Committee believed that arrangements for co-operation should be made to facilitate the formal agreement between the governments.

Common geodetic datum for Africa

8. The Committee heard that the choice of a common datum for Africa was a complicated problem for geophysical reasons. Africa, not having a homogeneous block, several cross traverses would need to be run to derive the necessary information and that the new concepts of geodesy based on dynamics might lead to the necessary information being obtained without recourse to the traditional methods.

Hydrography -- Item 12 (d)

9. The Committee heard a report by USA on their African charting programme (E/CN.14/CART/190) and considered a technical paper on hydrographic surveys - a necessary complement to photogrammetry for topographic mapping (USA), (E/CN.14/CART/180) and received an information paper on Dissemination of information on changing conditions affecting the safety of navigation (USA), (E/CN.14/CART/218).

10. The attention of the Committee was drawn to the importance of a common levelling datum and the determination of mean sea level. Attention was also drawn to the enormous work involved in keeping hydrographic charts up-to-date and to the need for the co-operation of all concerned.

ANNEX II
REPORT OF COMMITTEE II
Photogrammetry and Topography

Aerial photography, photogrammetry and topographical mapping

1. Under sub-item 12(b) of the agenda of the Conference the Committee considered the following papers:

Aerial photography for regional surveying and mapping (USA)
(E/CN.14/CART/192)

Photogrammetry for regional mapping (USA) (E/CN.14/CART/193)

Mapping from airborne electronic control (USA) (E/CN.14/CART/194)

The testing of new optical combinations for taking photographs and plotting at the Institut géographique national (France)
(E/CN.14/CART/173)

Orthophoto and orthophoto map. Photogrammetric auxiliary means for solving technical tasks of engineering and land register in Africa (Fed. Rep. of Germany) (E/CN.14/CART/204)

Practical improvements in stereoplottting instruments (E/CN.14/CART/214) and survey instruments and methods in the United States of America (E/CN.14/CART/215) (submitted by the United States)

Stereotopographic surveying and techniques used in the USSR (E/CN.14/CART/226) (submitted by the USSR)

Photointerpretation (E/CN.14/CART/227) (submitted by the USSR)

The Committee then proceeded to consider the following subjects:

Aerial photography

The problems encountered in obtaining aerial photographs due to weather conditions, for example harmattan, haze and low clouds were discussed and it was reported that the use of infra red-films and super-wide angle lenses had produced very valuable results. Although further successes were also reported through the use of electronic navigation devices the Committee felt that further research into the methods should continue. The question of colour photography was discussed.

Auxiliary apparatus

It was reported that in addition to the Airborne Profile Recorder (APR) and the Horizon Camera, other electronic devices had also been successfully used in Africa.

Ground control

It was reported that both conventional and electronic methods of establishing ground control were in use in Africa. Reports indicated growing developments in electronic equipment, but the need to continue further research into ground methods was stressed.

Aerial triangulation

Some delegates saw the need for further development and research in aerial triangulation. The Committee, however, realized that research into the problems facing Africa could be better carried out in Africa under African conditions and that the proposed ECA centres for Africa should play a prominent role in this respect.

Photo interpretation

The Committee took note of the paper presented on the subject.

Photo maps and mosaics

The use of mosaics and photomaps was discussed and it was brought out that for flat terrain, swamps, etc. photomaps could supply users with more information with no significant increase in cost.

Topographical maps

The application of photogrammetry to topographical mapping was discussed. It was reported that although maps were being produced almost entirely by photogrammetry the use of ground survey methods could not be completely eliminated, especially under difficult weather conditions and in areas of dense vegetation.

Field completion of maps

The Committee discussed the field completion and checking of maps produced from aerial photographs and agreed unanimously that maps must be field classified and checked on the ground. The use of helicopter for this purpose was also reported but this could never completely eliminate ground work. It, however, was realized that even after the most rigorous checks, mistakes could not be entirely avoided and that it will be useful to add a note to each map requesting users spotting mistakes to annotate the map and return it to the cartographic agency which published it. It was also stressed that field classification could be done before the final compilation.

Large-scale mapping and cadastral survey

The Committee then considered item 12(c) of the main agenda and discussed the following paper:

Tunisian experience in cadastral surveying (E/CN.14/CART/196)

The Committee stressed the importance of cadastral surveys to economic development, land administration, registration and establishment of cadastre and decided to recommend that government organizations dealing with the measurement and the administration of land should be closely related.

The use of aerial survey methods in large-scale and cadastral mapping was reported by many participants and it was suggested that conventional and aerial survey methods could be used.

ANNEX III

REPORT OF COMMITTEE III

Special mapping

I. Thematic and special maps

The following documents on thematic maps were studied with interest by the Committee:

(a) The design of maps and map-making techniques:

Techniques for making thematic maps (E/CN.14/CART/158) submitted by France;

(b) The maps themselves:

Summary of topographic and cartographic work carried out in the Republic of Chad from 1 January 1963 to 30 June 1966 (E/CN.14/CART/160) submitted by Chad;

Summary of topographic and cartographic work carried out in the Republic of Gabon from 1 January 1963 to 30 June 1966 (E/CN.14/CART/163) submitted by Gabon;

Maintaining current base information for aeronautical charts (E/CN.14/CART/175) submitted by the United States of America;

Geomorphological cartography in Tunisia (E/CN.14/CART/181); Report on the cartographic activities of the Tunisian Pedological Department (E/CN.14/CART/182); and Report on the possible applications of thematic cartography to Pedology (E/CN.14/CART/183), all of which were submitted by Tunisia;

Pedological maps at 1:1,000,000 of various French-speaking countries (E/CN.14/CART/187) submitted by France;

The geological map, a basic document (E/CN.14/CART/223) submitted by the Association of African Geological Surveys.

The Committee noted that in several of these papers and the resultant interventions the necessity was emphasized of simplifying and standardizing various constituents of thematic maps, in particular: scales, colours, symbols and legends; it also noted that these simplifications could be made only through close and constant co-operation between the compilers of the maps (scientists or technicians) and cartographers.

It emphasized that thematic maps should wherever possible be based on regular topographic documents.

The Committee noted with satisfaction the efforts made since the First Conference towards standardizing legends, colours and symbols in the fields of pedology (several African States and ORSTOM), meteorology (WMO) and economics (International Cartographic Association, Comité français de cartographie). It noted with interest the information given by the representative of ICAO on methods for bringing aeronautical charts up-to-date and the various offers of practical assistance in this field and approved the principle of sub-regional conferences to study common problems.

Generally speaking, the Committee, on examining the papers presented, noted that progress in the compilation and publication of thematic maps, particularly in the fields of geology, mineral deposits, pedology and geomorphology was increasing, but still inadequate. It emphasized the advantage of such maps for developing countries, both as a tool for present or future exploitation of natural resources and for educational use; it urged that the various national authorities which were aware of the value of such maps should as far as possible promote their compilation and publication and should be ready to exchange them, lists being prepared for that purpose.

II. Atlases

The Committee examined the following documents in this connexion:

Report on cartographic activities in Kenya, 1963-1966 (E/CN.14/CART/150) submitted by Kenya;

Progress report of the Federal Republic of Cameroon on cartographic work carried out since the First United Nations Regional Cartographic Conference for Africa (Nairobi 1963) (E/CN.14/CART/162) submitted by Cameroon;

Summary of topographic and cartographic work carried out in the Republic of the Congo from 1 January 1963 to 30 June 1966 (E/CN.14/CART/165) submitted by the Congo (Brazzaville);

The national resources inventory (E/CN.14/CART/169) submitted by the United States of America;

Atlas of Tunisia -- problems and suggestions (E/CN.14/CART/184) submitted by Tunisia;

National atlases and scientific research (E/CN.14/CART/185) submitted by France;

Maps and atlases as teaching aids (E/CN.14/CART/199) submitted by Czechoslovakia;

Report on cartographic activities in Tanzania 1963-1966 (E/CN.14/CART/200) submitted by Tanzania;

Progress report on the atlas of Morocco (September 1966) (E/CN.14/CART/222) submitted by Morocco;

The revised atlas of Africa (E/CN.14/CART/228) submitted by the USSR.

The Committee was gratified at the growing interest which seemed to be shown in national atlases, and which manifested itself in new publications or projects (Congo (Brazzaville), Tunisia, Ivory Coast), the revision of old publications for the purpose of bringing them up-to-date (Kenya, Tanzania), or the publication of new maps (Morocco).

After hearing several interventions by members both on the substance of the question and on ways and means of implementation, the Committee considered that each country should work out plans for its own scientific or practical atlases, taking into account the means at its disposal, the area of its territory and the aims in view.

Mentioning the large volume of experience of competent bodies in various countries (Chad, France, Ghana, Kenya, Morocco, Uganda, USSR, etc.) the Committee pointed out that it was always desirable for specialists such as geographers to be responsible for the design and compilation of atlases; collaboration between these specialists and cartographers was as necessary and should be as constant as in the printing of a single thematic map.

The Committee also emphasized that the publication of an atlas was a necessary but long and costly undertaking and that there must consequently be support from a body such as a permanent committee or department to ensure a constant supply of the necessary funds. A project for an atlas would seem to be suitable for integration in a plan.

The Committee also noted with satisfaction interventions emphasizing the two main uses of atlases - in education and in planning. In the latter connexion it recognized the value of atlases that gave an inventory of national resources, as a basis for and a summary of pre-investment studies.

As has already been done in Cameroon, the Committee recommended that atlases covering homogeneous areas within a single country should be published at scales varying according to the size of the area in question, the nature and importance of the basic documents, statistical or otherwise, and the aims pursued.

On the other hand, it considered that the great intrinsic educational value of maps and atlases can only be increased by co-operation between teachers and cartographers, which would make them completely efficient aids.

The Committee, convinced of the importance of atlases and of the role that they play and desirous to maintain their scientific, technical and educational value at a high level, warmly recommended that the greatest attention be devoted to the origin and quality of basic documents, cartographic or otherwise, particularly when the latter come from outside the countries concerned, and insisted that the source and date of the source should always be mentioned on the maps, in the commentaries on the maps or in the index.

The Committee made no statement on the distinction between "scientific" atlases and "normal" or "practical" atlases; it seemed natural to the Committee that every atlas should be prepared from reliable, objective and up-to-date data, whether topographic, planimetric or thematic; the basic scale selected, and, above all, the nature of the documentation used, its elaboration into more or less complex combinations, depend on the purpose and scientific level of an atlas.

Finally, in the practical field, the Committee recommended that atlases be made in a form that would facilitate the indispensable process of bringing them up-to-date by the substitution or addition of maps and notes.

ANNEX IV

REPORT OF COMMITTEE IV

Preparation and Reproduction of Maps

The Terms of Reference of the Committee were to study all problems related to item 14 of the agenda, namely, technical questions on the preparation and reproduction of maps, including the standardization of geographical names and to draft resolutions for submission to the Conference.

In this connexion the Committee studied six relevant documents: Report on technical questions relating to map production and reproduction (E/CN.14/CART/197) submitted by Tunisia; Color separation and printing techniques for photomaps (E/CN.14/CART/205) submitted by the United States; Report on automated color separation (E/CN.14/CART/217) submitted by the United States; Application in the USSR of scribing map manuscripts on plastics (E/CN.14/CART/229) submitted by the USSR; a Report on some problems of toponymy in topography (E/CN.14/CART/159) submitted by the United States; and finally the excerpt from the draft report of the preparatory meeting for the United Nations Conference on the Standardization of Geographical Names (E/CN.14/CART/230) submitted by the United States.

The following main subjects were dealt with:

- (a) The utilization of scribing in the preparation of map plates;
- (b) The reproduction and printing of colour photomaps;
- (c) The transcription and standardization of geographical names;
- (d) Other topics.

The discussion on these subjects is analysed below.

(a) Utilization of scribing

The utilization of scribing for the preparation of map plates is spreading in African countries; some countries prepare all their plates by this process, on the other hand, others reserve it for contour line plates and employ conventional methods for the other plates. The output is much increased and quality greatly improved by this process and the training of scribes is much quicker.

The process is well suited for retouching, but bringing the plates up-to-date later is perhaps slightly more complicated than with the conventional method.

In certain countries transparent sheet is used as the stage of photogrammetric plotting, either by direct engraving with the plotting machine or by manual engraving at the fair drawing stage. In field completion either the engraved sheets can be used or combined copies of these sheets.

(b) Reproduction and printing of colour photomaps

An original method making possible the printing of coloured photomaps without using an intermediate screen negative was explained by the observer from the United States.

This method, which requires relatively simple equipment, gives one or more positive films of sufficient contrast to be directly printable; these are obtained straight from the original half-tone negative and a positive mask, separated from one another by a transparent plastic sheet. The clarity of ground detail depends on the exposure time. The model submitted by the United States (minute photomap Chesser Island Quadrangle, Georgia) includes in addition to yellow-green and grey sheets obtained by this process, sheets of blue-black, buff and red obtained by manual overprinting.

By this method one can rapidly obtain a document which, in certain cases, e.g. for swampy and desert areas, gives a representation of details and nuances on the ground more vividly than a conventional map could with conventional tones and polishing.

(c) Transcription and standardization of geographical names

The Committee emphasized the importance of proper transcription and transliteration of geographical names that is as exact and standardized as possible; however, it was not considered useful to discuss the substance of this problem at the time as it is to be considered by the United Nations Conference on the Standardization of Geographical Names which the Economic and Social Council is to convene at Geneva especially for this purpose in August 1967. The delegates, aware of the importance of this Conference, hoped that each African State would actually be represented.

On a question of principle, the Committee stressed that each State remained the sole and final judge on geographical names for its own territory and on their official transcription.

Finally, the Committee again emphasized the fact that in no case should the issue of a map be held up pending solution of the problem of the transcription of geographical names.

(d) Other topics

With regard to the printing of maps in general, some members emphasized the advantage of printing on special paper.

ANNEX V

LIST OF CONFERENCE DOCUMENTS 1963-66

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|-----------------------------|--|
| E/CN.14/CART/146 | - Check List of Pre-Conference Documents
(Secretariat) |
| E/CN.14/CART/147 | - Provisional agenda
(Secretariat) |
| E/CN.14/CART/148 | - Rules of procedure (Provisional rules)
(Secretariat) |
| E/CN.14/CART/149 | - General arrangements of immediate interest
to the participants: Preliminary information
(Secretariat) |
| E/CN.14/CART/150 and Add. 1 | - Report on cartographic activity in Kenya,
1963-66 by the Survey of Kenya.
(Kenya) |
| E/CN.14/CART/151 | - Progress Report of Cartographic Activities
in Ethiopia 1963-65
(Ethiopia) |
| E/CN.14/CART/152 | - Question of establishment of an ECA carto-
graphic Committee
(Secretariat) |
| E/CN.14/CART/153 | - Report on cartographic activities in Malawi
(Malawi) |
| E/CN.14/CART/154 | - Means to convince African parliamentary
authorities of the importance of carto-
graphic work
(Mali) |
| E/CN.14/CART/155 and Add.1 | - Participation by France in the cartographic
activities of Africa -- Work done by the
Institut géographique national between 1
January 1963 and 1 January 1966
(France) |
| E/CN.14/CART/156 | - Geodetic frame triangulation
(France) |
| E/CN.14/CART/157 | - Geodetic connexion between France and North
Africa by simultaneous sighting of the Echo
I artificial satellite
(France) |

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| E/CN.14/CART/158 | - Techniques for making thematic maps
(France) |
| E/CN.14/CART/159 | - Some problems in cartographic toponomy
(U.S.A.) |
| E/CN.14/CART/160 and Add.1 | - Summary of topographic and cartographic
work carried out in the Republic of Chad
from 1 January 1963 to 30 June 1966
(Chad) |
| E/CN.14/CART/161 and Add.1 | - Summary of topographic and cartographic
work carried out in the Central African
Republic from 1 January 1963 to 30 June
1966
(Central African Republic) |
| E/CN.14/CART/162 | - Progress report of the Federal Republic
of Cameroon on cartographic work carried
out since the first regional cartographic
conference for Africa (Nairobi, July 1963)
(Cameroon) |
| E/CN.14/CART/163 and Add.1 | Summary of topographic and cartographic
work carried out in Gabon from 1 January
1963 to 30 June 1966
(Gabon) |
| E/CN.14/CART/164 | - Organization and functioning of the topo-
graphic and cadastral service of Gabon
(Gabon) |
| E/CN.14/CART/165 and Add.1 | - Summary of topographic and cartographic
work carried out in the Republic of the
Congo from 1 January 1963 to 30 June 1966
(Republic of the Congo) |
| E/CN.14/CART/166 and Corr.1 | - Projects of regional interest
(a) Measurement of ARC 12°North
(Secretariat) |
| E/CN.14/CART/167 | - Progress report of the Islamic Republic
of Mauritania on cartographic work
(1 January 1963 - 1 January 1966)
(Mauritania) |
| E/CN.14/CART/168 | - Cartographic activity in Mali
(Mali) |
| E/CN.14/CART/169 | - The National resources inventory
(U.S.A.) |

E/CN.14/CART/170

- Projects of regional interest
(b) International centres for training in integrated survey of natural resources and related recommendations
(Secretariat)

E/CN.14/CART/171

- Projects of regional interest
(c) Scientific research and training centres in Africa for facilitating and accelerating the exploitation of natural resources
(Secretariat)

E/CN.14/CART/172

- 1:50,000 topographic mapping in Nigeria, Progress Report 31/12/62 - 31/12/66

E/CN.14/CART/173

- The testing of new optical combinations for taking photographs and plotting at the "Institut géographique national" (France)

E/CN.14/CART/174

- Implementation of resolutions adopted by the First United Nations Regional Cartographic Conference for Africa, held in Nairobi in 1963
(Secretariat)

E/CN.14/CART/175

- Maintaining current base information for aeronautical charts
(U.S.A.)

E/CN.14/CART/176

- Connexion of national levelling networks
(Cameroon)

E/CN.14/CART/177

- Report on the Tunisian Topographical Service's cartographic activities since the holding of the first conference (1963 - 1966)
(Tunisia)

E/CN.14/CART/178

- Progress made in the fields referred to in the resolutions and recommendations of the First Conference (Tunisia)

E/CN.14/CART/179

- Organization of national cartographic departments (Tunisia)

E/CN.14/CART/180

- Hydrographic surveys, a necessary complement to photogrammetry for topographic mapping (Tunisia)

E/CN.14/CART/181

- Geomorphological cartography in Tunisia
(Tunisia)

E/CN.14/CART/182

- Report on the cartographic activities of the Tunisian pedological department
(Tunisia)

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| E/CN.14/CART/183 | - Report on the possible applications of thematic cartography to pedology (Tunisia) |
| E/CN.14/CART/184 | - Atlas of Tunisia - Problems and suggestions (Tunisia) |
| E/CN.14/CART/185 | - National atlas and scientific research (France) |
| E/CN.14/CART/186 | - Summary of the thematic cartography carried out by Orstom in Africa between 1963 - 1966 (France) |
| E/CN.14/CART/187 | - 1:1,000,000 soil maps of various countries of French-speaking Africa (France) |
| E/CN.14/CART/188 | - Report on work achieved from 1963 to 1965 (Democratic Republic of the Congo) |
| E/CN.14/CART/189 | - Geodesy in the Ivory Coast (Ivory Coast) |
| E/CN.14/CART/190 | - The African charting programme of the United States of America (U.S.A.) |
| E/CN.14/CART/191 | - Satellite triangulation (U.S.A.) |
| E/CN.14/CART/192 | - Aerial photography for regional surveying and mapping (U.S.A.) |
| E/CN.14/CART/193 | - Photogrammetry for regional mapping (U.S.A.) |
| E/CN.14/CART/194 | - Mapping from airborne electronic control (U.S.A.) |
| E/CN.14/CART/195 | - The U.S. Army sequential collation of range geodetic satellite system (U.S.A.) |
| E/CN.14/CART/196 & Add.1 | - Tunisian experience in cadastral surveying (Special maps for the country's development programmes) (Tunisia) |
| E/CN.14/CART/197 | - Report on the technical questions relating to map production and reproduction (Tunisia) |
| E/CN.14/CART/198 | - Report on cartographic activities in the Sudan 1963 - 1965 (Sudan) |
| E/CN.14/CART/199 | - Maps and atlases as teaching aids (Czechoslovakia) |
| E/CN.14/CART/200 | - Report on cartographic activities in Tanzania 1963-66 (Tanzania) |
| E/CN.14/CART/201 | - Astro-geodetic activities in the Institut für Angewandte Geodäsie (Federal Republic of Germany) |

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| E/CN.14/CART/202 | - Scale checking in first-order triangulation nets (Federal Republic of Germany) |
| E/CN.14/CART/203 | - Simultaneous determinations of longitude and latitude in Africa with the prismatic astrolabe (Federal Republic of Germany) |
| E/CN.14/CART/204 | - Orthophoto and Orthophoto map - photogrammetric auxiliary means for solving technical tasks of engineering and land register in Africa (Federal Republic of Germany) |
| E/CN.14/CART/205 | - Color-separation and printing techniques for photomaps (USA) |
| E/CN.14/CART/206 | - Electromagnetic distance measurement in the US Geological Survey (USA) |
| E/CN.14/CART/207 | - Aerodist - The flying distance meter (Canada) |
| E/CN.14/CART/208 | - Report on cartographic activities in Morocco (Morocco) |
| E/CN.14/CART/209 & Add.1 | - Report on the cartographic activities of the survey division of the Ministry of Lands (Ghana) |
| E/CN.14/CART/210 & Add.1 | Annotated provisional agenda (Secretariat) |
| E/CN.14/CART/211 | - United Kingdom report (United Kingdom) |
| E/CN.14/CART/212 | - Report on cartographic activities in Liberia (Liberia) |
| E/CN.14/CART/213 | - Progress report of cartographic activities 1963-1966 (USA) |
| E/CN.14/CART/214 | - Practical improvements in stereoplottling instruments (USA) |
| E/CN.14/CART/215 | - Survey instruments and methods in the United States of America (USA) |
| E/CN.14/CART/216 | - New developments in aerospace charting techniques and equipment (USA) |
| E/CN.14/CART/217 | - Automated color separation (USA) |
| E/CN.14/CART/218 | - Dissemination of information on changing conditions affecting the safety of navigation (USA) |
| E/CN.14/CART/219 | - Agenda (Secretariat) |
| E/CN.14/CART/220 | - Rules of procedure (Secretariat) |
| E/CN.14/CART/221 | - Secor electronic satellite tracking system (USA) |

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| E/CN.14/CART/222 | - Progress report on work and projects for the Atlas of Morocco - September 1966 (Morocco). |
| E/CN.14/CART/223 | - Geological map, a basic document (ASGA) |
| E/CN.14/CART/224 | - Mapping and surveying in Uganda (Uganda) |
| E/CN.14/CART/225 | - Possibilities for establishing horizontal control over considerable areas (USSR) |
| E/CN.14/CART/226 | - Stereotopographic surveying techniques used in the Union of Soviet Socialist Republics (USSR) |
| E/CN.14/CART/227 | - Photo-interpretation (USSR) |
| E/CN.14/CART/228 | - The Africa Atlas (USSR) |
| E/CN.14/CART/229 | - Application in the USSR on scribing map manuscripts on plastics (USSR) |
| E/CN.14/CART/230 | - Excerpt from the Draft report of the preparatory meeting for the United Nations conference on the standardization of geographical names (secretariat) |
| E/CN.14/CART/231 | - List of officers elected by the Conference (secretariat) |
| E/CN.14/CART/232 | - United Nations Educational, Scientific and Cultural Organization's activities in the field of Natural Resources Research - Integrated surveys and scientific maps (UNESCO) |
| E/CN.14/CART/233 | - Report of Committee IV - Preparation and reproduction of maps |
| E/CN.14/CART/234 | - Report of Committee II - Photogrammetry and Topography |
| E/CN.14/CART/235 | - Report of Committee III - Special mapping |
| E/CN.14/CART/236 | - Report of Committee I - Geodesy and Hydrography |
| E/CN.14/CART/237 | - List of participants (secretariat) |
| E/CN.14/CART/238 | - List of documents issued for the Conference (secretariat) |
| E/CN.14/CART/239 | - Draft-report of the Conference |
| E/CN.14/CART/240 | - Report of the Conference. |

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| E/CN.14/CART/SR.11 | - Provisional Summary Record of the First Plenary Meeting held on 12 September 1966 (morning) |
| E/CN.14/CART/SR.12 | - Provisional Summary Record of the Second Plenary Meeting held on 12 September 1966 (afternoon) |
| E/CN.14/CART/SR.13 | - Provisional Summary Record of the Third Plenary Meeting held on 13 September 1966 (morning) |
| E/CN.14/CART/SR.14 | - Provisional Summary Record of the Fourth Plenary Meeting held on 13 September 1966 (afternoon) |
| E/CN.14/CART/SR.15 | - Provisional Summary Record of the Fifth Plenary Meeting held on 14 September 1966 (morning) |
| E/CN.14/CART/SR.16 | - Provisional Summary Record of the Sixth Plenary Meeting held on 14 September 1966 (afternoon) |
| E/CN.14/CART/SR.17 | - Provisional Summary Record of the Seventh Plenary Meeting held on 20 September 1966 (morning) |
| E/CN.14/CART/SR.18 | - Provisional Summary Record of the Eighth Plenary Meeting held on 20 September 1966 (afternoon) |
| E/CN.14/CART/SR.19 | - Provisional Summary Record of the Ninth Plenary Meeting held on 21 September 1966 (afternoon) |
| E/CN.14/CART/SR.20 | - Provisional Summary Record of the Tenth Plenary Meeting held on 22 September 1966 morning) |
| E/CN.14/CART/SR.21 | - Provisional Summary Record of the Eleventh Plenary Meeting held on 22 September 1966 (afternoon) |
| E/CN.14/CART/SR.22 | - Provisional Summary Record of the Twelfth Plenary Meeting held on 24 September 1966 (morning) |
| E/CN.14/CART/C.1/2 | - Draft Report of Committee I - Geodesy and Hydrography |
| E/CN.14/CART/C.2/2 | - Draft Report of Committee II - Photogrammetry and Topography |
| E/CN.14/CART/C.3/2 | - Draft Report of Committee III - Special Mapping |
| E/CN.14/CART/C.4/2 | - Draft Report of Committee IV - Preparation and Reproduction of maps |

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| E/CN.14/CART/L.23 | - Information note for delegates |
| E/CN.14/CART/L.24 | - Draft resolution on the standardization of geographical names |
| E/CN.14/CART/L.25 | - Draft resolution on the establishment of research centre for Africa |
| E/CN.14/CART/L.26 | - Draft resolution on the survey in areas in which meteorological conditions are unfavourable |
| E/CN.14/CART/L.27 | - Draft resolution on the question of organization of an ECA cartographic Committee |
| E/CN.14/CART/L.28 | - Draft resolution on the production of thematic maps and national atlases |
| E/CN.14/CART/L.29 | - Draft resolution on regional co-operation |
| E/CN.14/CART/L.30 | - Draft resolution on regional co-operation |
| E/CN.14/CART/L.31 | - Draft resolution on production of special maps and atlases for Africa |
| E/CN.14/CART/L.32 | - Draft resolution on promotion of interest in cartographic work |
| E/CN.14/CART/L.33 | - Draft resolution on seminar on cadastre |
| E/CN.14/CART/L.34 | - Draft resolution on common geodetic datum |
| E/CN.14/CART/L.35 | - Draft resolution on geodetic satellite programmes. |
| E/CN.14/CART/L.36 | - Draft resolution on exchange of cartographic documentation |
| E/CN.14/CART/L.37 | - Draft resolution on the Third United Nations Regional Cartographic Conference for Africa |
| E/CN.14/CART/L.38 | - Draft resolution on the Third United Nations Cartographic Conference for Africa |
| E/CN.14/CART/L.39 | - Draft resolution on the Information Bulletin |
| E/CN.14/CART/L.40 | - Draft resolution on hydrographic services |
| E/CN.14/CART/L.41 | - Draft resolution on votes of thanks to the Economic Commission for Africa |
| E/CN.14/CART/L.42 | - Draft resolution on vote of thanks to the Government of Tunisia. |