

EXISTING PROCEDURES IN AFRICA REGARDING MULTILATERAL AND
BILATERAL TECHNICAL CO-OPERATION IN "CARTOGRAPHY 1/"
INCLUDING REMOTE SENSING

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ABSTRACT

This paper discusses multilateral and bilateral technical co-operation projects in cartography including remote sensing, emphasizing the catalytic, supportive and innovative role the United Nations Economic Commission for Africa plays in the operational activities of the regional and subregional institutions it has established at the instance of African member countries. It also touches briefly on ECA's backstopping and logistic supports for the survival of the institutions including solutions to meet respective requirements.

1. Introduction

In October 1983, Prof. Dr. Jurgen Hothmer, President, Commission VI of ISPRS approached the Economic Commission for Africa (hereinafter referred to as the Commission) for the participation of its Chief of Cartography and Remote Sensing Unit in the sessions of Commission VI during the XV ISPRS Congress to be held in Rio de Janeiro, Brazil from 17-29 June 1984. He also indicated that he would appreciate if the Commission's representative could prepare a paper for the Congress to elaborate on the African view on Technical Co-operation with regard to the task of Working Group VI/7 of Commission VI. This invitation to contribute a paper has been based on the fact that the Chief of Cartography and Remote Sensing Unit is the representative of the Commission co-ordinating its activities in the fields of Cartography and Remote Sensing.

As defined in the footnote, map making forms part of cartography. The invitation to participate in the sessions of Commission VI during this Congress, and to contribute a paper was enthusiastically received by the ECA secretariat because of the visible benefits to its work in the development of national cartographic capabilities of member States towards the realisation of the goals of the "Lagos Plan of Action (LPA)" and the "Final Act of Lagos (FAL)" 2/ with particular reference to the chapter on "Institution Building". The ultimate goal is to attain self-reliance and self-sustainment without prejudice to any supplementary assistance from bilateral and multilateral sources.

1/ "Cartography" covers surveying and mapping as used by the United Nations.

2/ Adopted blueprint by the Extra-ordinary Summit of Heads of State and Government in Lagos, Nigeria in 1980.

This paper does not intend to resuscitate the first of the two task definitions of Working Group VI/7 which then aimed at preparing relevant information on policies and procedures regarding multilateral and available bilateral technical co-operation in surveying and mapping and remote sensing with a view to benefiting colleagues in developing countries. I align myself with the decision reached during the session of Commission VI/7 at the Mainz Symposium in 1982 on this first part of the task definitions that, "instead of establishing policies and procedures, the working group can concentrate on the illustration of existing policies and procedures." It is in this spirit that I have carefully chosen the topic for this paper to highlight the procedures and activities of the Economic Commission for Africa with regard to technical co-operation which is one of its various pre-occupations for the development of the economies of the ECA member States.

Before going into the substance of this paper, let me give a vivid picture of the African position with regard to its setting in the world economy. Africa is a large continent which covers slightly less than one quarter of the land surface of the world. It has 62 islands and today 50 countries have become politically independent over the last two decades. It is universally acknowledged that it has rich potentials of natural resources and that these are capable of sustaining the teeming millions. Unfortunately, these resources are either not fully tapped or when exploited, mismanaged. It is often said also that the African Region has great potentials in terms of mineral resources and this makes many of the African countries to be among the main producers of rare minerals in the world. In spite of this rosy picture of the potentialities of the African economy, it accounts for at least 22 out of slightly over 40 of the world's least developed countries. This situation has remained in this form even before the world economic recession which stares Africa in the face more than any other continent in the world.

Due to poverty, lack of technical know-how, development of indigenous capabilities, failure to identify national priorities within the rather limited available resources (only to mention a few), those resources have remained untapped, unexploited and minimally developed for the socio-economic benefit of the people. There is still great dependence upon external sources for most of their basic needs especially in the field of surveying and mapping including remote sensing. One sure way of getting out of this paradox is for African countries to regard technical co-operation among themselves (as developing countries) as a sine-qua-non for development through collective self-reliance as well as a necessity for economic integration, political stability and the unity of the continent.

2. Economic Commission for Africa (ECA) and its role in TCDC*

The Economic Commission for Africa (ECA) is one of the five United Nations Regional Commissions. Like the remaining four regional commissions, it assists its developing member countries, in co-operation with the various sectoral organs and specialized agencies in the United Nations system, to

* Technical Co-operation among Developing Countries.

provide the necessary impetus to make TCDC for collective self-reliance the leading dimension of international co-operation for development. Whilst the Economic Commission for Europe (ECE) is pre-occupied primarily with the furtherance of east-west economic co-operation among its member countries with different economic and social systems, the Economic Commission for Africa (ECA), like the other remaining three regional commissions namely, the Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic Commissions for Latin America (ECLA), and West Asia (ECWA), is concerned with the peculiar issues and the attendant problems of its developing member States.

TCDC is not a new concept to African member States because, prior to the attainment of "political" independence by many of the countries of the African region, a large number of co-operative activities were undertaken and, even today many have come together to have, and are still pursuing efforts, in bilateral or multi-lateral ventures among themselves. Section 3 of this paper will outline some of the known joint/common ventures in the field of cartography and remote sensing, and which have demonstrated beyond doubts the faith African countries have in TCDC as a necessary instrument of collective self-reliance and the enhancement of their creative capacity to solve their development problems. The most recent strategies evolved, based on greater national and regional commitments among all African member States for their socio-economic development, are carefully and lucidly enunciated in the Lagos Plan of Action (LPA) and the Final Act of Lagos (FAL). This blueprint (LPA and FAL), based on the "Monrovia Strategy for the Economic Development of Africa",^{*} was adopted at the Extraordinary Summit of the Heads of State and Government of the Organization of African Unity (OAU) in Lagos, Nigeria in April 1980. The preparation of the document was the joint efforts of the secretariats of the OAU and the ECA.

The work of the ECA is derived from the mandates given by its various legislative bodies or authorities, of which the "ECA Conference of Ministers" is the highest. This is composed of the Ministers of the member countries having responsibility for economic planning and development. They hold meetings annually. The Economic Commission for Africa is also a subsidiary organ of the Economic and Social Council which is the vehicle for conveying the reports of the Conference of the ECA Ministers to the General Assembly for approval. In executing those mandates, the ECA acts as the forum for negotiations among developing countries, and for the preparation and implementation of development projects having TCDC components and such other activities requiring support at national, subregional, regional and international levels. It maintains close contacts with sectoral organs of the governments of the member States, with multinational and technical institutions as well as with non-governmental organizations in these countries.

* OAU Summit of 1979 in Monrovia, Liberia.

The ECA is fully aware of the economic and social situation in each member country through surveys, official visits both in the course of implementation of the approved projects in its work programmes and in the organization of conferences, meetings, seminars and workshops, etc. Resultantly, it possesses a first hand knowledge of the available human, material and technical resources which will be required to implement mutual technical co-operation more rapidly and effectively. It is against this background that it assists in mobilising extra-budgetary resources, and in creating multinational institutions in several disciplines, at the request of member States themselves. In its role as an executing agency, it gives necessary backstopping to the projects which are executed under TCDC arrangements (funded largely by UNDP), bilateral and multilateral assistance from donor countries.

The rather brief foregoing account of the role of the ECA in TCDC in bilateral and multi-lateral co-operation, as a supplement to member countries' efforts, is given to assist the reader in appreciating better the actual activities undertaken by the Commission in the field of cartography and remote sensing. I have not attempted to bring in other areas of the Commission's activities which concern the totality of its terms of reference.

3. Activities of the ECA in the field of TCDC

As this paper is to focus attention on multi-lateral and bilateral technical co-operation in cartography including remote sensing, I have confined myself to those activities or projects designed strictly with TCDC in view. Although those are comparatively few and are always tailored to respect the following paraphrased guidelines which are contained in Decision 2/9 of the High-Level Committee on TCDC, they are by no means insignificant. TCDC activities are those which:

- ** (a) involve the deliberate and voluntary sharing or exchange of technical resources, skills and capabilities ...;
- (b) are initiated, organized and managed primarily by the developing countries themselves ...;
- (c) are primarily financed by the developing countries themselves ...; and
- (d) use, whenever possible, innovative approaches, methods and techniques particularly adapted to local needs.**

** Paraphrased from Decision 2/9 of the High Level Committee

From the foregoing criteria it is easily seen that neither the United Nations agencies nor the Economic Commission for Africa for that matter, in general, can engaged in TCDC activities. Their activities are limited to playing a promotional or catalytic role to facilitate the process of TCDC between one developing country or group of developing countries or developed countries. This promotional role takes many forms, the most significant, as far as multilateral and bilateral technical co-operation in the field of cartography and remote sensing is concerned, is acting as a transmission mechanism or intermediary for channelling funds and technical resources from one developing country to another or from a developing country to a group of developing countries. This statement will become clearer in the succeeding sub-paragraphs.

The TCDC activities of the Economic Commission for Africa in cartography and remote sensing can therefore be put into four categories namely:

- (a) development of national cartographic and remote sensing capabilities, including the assessment of manpower needs;
- (b) institution building which involves establishment of: Regional and sub-regional institutions;
- (c) promotion of intra-African and inter-regional co-operation in dissemination of technical information, direct assistance from one country to another; and
- (d) multilateral technical co-operation for continental projects.

Let me state once more that the TCDC activities listed in the preceding sub-paragraph emanate from the mandate given to the ECA by its various legislative bodies. They reflect the consensus of member States to benefit from the applications of modern technology for their natural resources inventory, exploitation and rational utilisation to improve the lot of their nationals.

Under category (a), ECA mobilises extra-budgetary or external resources from co-operating developed countries to engage the services of consultants to undertake studies to specific sub-regions and selected countries for on-the-spot assessment of their needs. The clearly defined needs, embodied in the reports of those consultants, form the basis of negotiations externally or internally for financial assistance to implement the decisions. A good example of this is the technical co-operation agreement ECA signed with the Government of India on behalf of the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) to enable it identify the cartographic and remote sensing needs of the 18 countries within the sub-region. On identification of those needs, sub-regional projects of common interest to the member States will be formulated, and external assistance sought for their implementation. Others that also readily come to mind are the technical assistance to enable the Government of Uganda to rehabilitate the country's geodetic network which was destroyed during the civil disturbances of the late 70s as well as for the Government of Mozambique to set up a viable national cartographic department. Assistance is also being sought for the Governments of the Republic of Niger, Angola and Central African Republic (CAR) to develop their national cartographic and remote sensing capabilities.

The most significant TCDC activities are under category (b) - Institution building. Strictly speaking there are two regional institutions born to life in 1972 and 1979. In October 1972, the Regional Centre for Training in Aerial Surveys was established to serve the needs of all ECA member States in providing training courses at operators' level, photogrammetry at technicians' and engineers' levels and in photo-interpretation. The other caters for the development and applications of remote sensing techniques.

The following are the sub-regional institutions, strategically located to provide full coverage of the services they are created to offer to member States in the development of their national resources:

- (1) Regional Centre for Services in Surveying, Mapping and Remote Sensing, Nairobi (Kenya).
- (2) Remote Sensing Centre, Ouagadougou, (Upper Volta).
- (3) Remote Sensing Centre, Kinshasa (Zaire).
- (4) Remote Sensing Centre, Ile-Ife (Nigeria).
- (5) Remote Sensing Centre, Cairo (Egypt).

ECA assists not only in mobilizing resources for the development of these institutions but also in giving necessary moral and backstopping support for their survival. The TCDC activities here involve participation of multi-national donors in the implementation process relating to each project. Such processes are in no way different from what obtains all over the world.

Under category (c) will be mentioned assistance rendered by one African country to another through sharing the capabilities available in the former. Examples are:

- (i) assistance rendered by Ivory Coast to Zaire in using its survey aircraft to fly aerial photography at minimal cost;
- (ii) Nigerian assistance to Benin in observing its geodetic network and survey of the common boundary;
- (iii) Senegal and Gambia (and perhaps Guinea-Bissau) undertook a joint survey of the river basin within their territories.

The ECA, in collaboration with the United Nations Headquarters, organized an inter-regional seminar for the benefit of the member States of ECA and ECWA regions in preparation for UNISPACE-82, held in Vienna, Austria in August 1982. The idea behind this joint inter-regional seminar was to explore possibility of exchanging technical information and execute inter-regional projects in the fields of cartography and remote sensing. It has not relented in its efforts to negotiate bilateral and multilateral technical co-operation in areas of mutual interest with other regions. In this connection, it has already made contact with Latin America to enable its sponsored Regional Centre for Training in Aerial Surveys, Ile-Ife (Nigeria) to share from the latter's expertise of radar surveying in the thickly forested western belt, bordering the Atlantic Ocean.

Two continent-wide projects come under category (d) - "Multinational technical co-operation projects". These are:

- (i) The African Remote Sensing Programme (ARSP), enunciated in February 1975 by the ECA Conference of Ministers in accordance with its resolution 280 (XII), is one which recognises the establishment of an African Remote Sensing Council (ARSC), some subsidiary legislative organs, five regional remote sensing and trainer and users assistance centres, and three ground receiving and processing stations. It is a multi-donor project, deriving tremendous assistance (expertise, equipment etc) from the governments of France, Germany, Canada and USA from the time of its inception. The member States from the West African sub-region which are to benefit from the project pay their contributions to the budget of the Centre, for its operations and the capital development. It will be boring to go into details of the activities so far undertaken in implementing the programme. The second remote sensing and users assistance centre, established in the eastern and southern African sub-region and located in Nairobi, equally derives substantial assistance from multi-donors. The remaining three centres, at the moment, concentrate on introductory training courses and applications of remote sensing to resources development and utilization.
- (ii) The other continent-wide project involving all the countries of the African region is the "African Doppler Survey" (ADOS). The project, when completed, will result in the Doppler determined co-ordinates of some 200-250 stations, and the transformation parameters between the local geodetic datums and the satellite co-ordinate system. These Doppler points will also form the basis of the first order geodetic networks and will pave the way for the determination of a common geodetic datum for Africa. According to the news bulletin (November/December 1983) issued by the Regional Centre for Services in Surveying, Mapping and Remote Sensing, Nairobi (Kenya) which is the executing agency of the project on behalf of the IAG Commission XI, the Commission for Geodesy in Africa, ADOS points in at least 20 countries had been completely observed. There are plans for more field work after August 1983 for other 16 countries by co-operating sister countries.

4. An attempt at "African View" on Multilateral and Bilateral Technical Co-operation

The views which are expressed in this section of the paper are personal to the author, and do not, therefore, represent any sounded on authoritative statements from any official source(s). They are based on my personal assessment of reactions of, and statements made by, member States' representatives at various conferences, meetings, seminars and workshops which have been organized by the ECA since I assumed my office in 1978 as the Chief of the Cartography and Remote Sensing Unit. From an unbiased assessment and a balanced judgement, these (views) provide more than mere glimpses of the overall African view on the subject-matter. The sub-paragraph that follows summarises this in a terse and vivid manner.

The most significant TCDC activities of the ECA in "cartography and remote sensing" are concerned with the establishment of regional and subregional institutions. They are created at the instance of member States themselves as a means of pooling resources and sharing skills, capabilities and experience among themselves for mutual benefit. Conceptually, they are TCDC institutions par excellence, and contributions towards their budgets are therefore equivalent to promotion of TCDC per se. During the past four years, several sensitization missions had been fielded by the Governing Councils of some of the established sub-regional institutions to arouse the awareness of the member States in demonstrating more effectively their moral, political and material support for the centres created at their instance. There is ample evidence that a majority embraces warmly the philosophy of TCDC and the tenets of the Lagos Plan of Action and the Final Act of Lagos which was born out of the "Monrovia Strategy for Economic Development of Africa". Two major problems appear to plague the development of the centres to full operationality. These are: inadequate membership and meagre budgetary contributions. These will be elaborated upon in Sections 6 and 7.

5. Financing of TCDC activities

There are four sources of funds for TCDC activities. These are:

- (i) United Nations Trust Fund for African Development (UNTFAD);
- (ii) United Nations Development Programme (UNDP);
- (iii) Bilateral sources; and
- (iv) Development bank and other financial sources.

The most important source of funds for TCDC activities in the African region is UNTFAD. The fund, which is administered by ECA, is made up of voluntary contributions pledged by African member States for purposes of undertaking various forms of multinational activities within Africa, in the spirit of collective self-reliance. The Regional Centre for Training in Aerial Surveys, Ile-Ife (Nigeria) had a grant of \$US72,500 from the fund for its physical and curriculum developments. Other activities that benefited from the same fund, are the "Cartographic Inventory Project for Africa" and the organization of a workshop on "Recent Crustal Movements in Africa."

During the UNDP Third Programming Cycle (1982-1986), the Regional Centre for Services in Surveying, Mapping and Remote Sensing received a grant of some \$US750,000 to strengthen its cartographic and remote sensing activities. ECA is the executing agency for the project.

The contributions made by bilateral (and multilateral) donors to the establishment of all the regional and sub-regional centres have helped tremendously in their smooth take-off and thereafter. Worthy of mention are those assistance received in the form of fellowships, secondment of teaching experts, donation of equipment, etc. As the donors are numerous, perhaps it will suffice for this kind of paper to remain silent on enumerating them. It is fitting, however, to acknowledge their past and present contributions to the development of the centres, and to use this medium to solicit their continued co-operation for more assistance.

Although multinational development banks can be an important source of finance for TCDC projects involving the member States of the relevant banks, none of the regional and sub-regional centres has as yet benefited from this source. An application by the Regional Centre for Services in Surveying, Mapping and Remote Sensing, Nairobi (Kenya), for a soft loan or grant to embark upon the first phase of its capital development is still being processed by the concerned development bank.

6. Problems Identified

In developing technical co-operation among African countries the following problems can be identified. As the TCDC activities relate mostly to the establishment of institutions in cartography and remote sensing (multinational, regional and subregional), active participation of the member States still leaves much to be desired. Whilst in recent years, the established institutions have grown in number, their growth in size and scope have been stultified by a lack of visible zeal and material support on the part of the member governments. Even after they have pressed for the establishment of an institution, it is bewildering to note that only an insignificant number is prepared to sign and ratify the agreement and/or the constitution establishing it. Furthermore, lack of adequate, stable, regular financial and material support is noticeable. Several sensitization missions are mounted before a handful is induced to join hands with the founding contracting parties. In support of this statement, let me mention a few instances. In 1972 the Regional Centre for Training in Aerial Surveys (RECTAS) was founded as a regional technical co-operation project to provide training in all fields of aerial surveys, including aerogeophysics. At that time, only 4 governments signed the agreement establishing the centre. Today (1984), the membership has just risen to eight after a series of sensitization missions. Also, the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) was established in 1975 with an initial membership of six but today this has just risen to nine out of prospective 18 member States within the subregion it is established to serve. The situation is not different in respect of the other regional centres in remote sensing. The effect of this state of affairs is that the centres are not financially equipped to operate efficiently and fully to capacity.

As the take-off of these centres has been made possible by assistance from multi-donors, the situation in the preceding sub-paragraph, has had an adverse effect on the continued support of these donors. It appears some of them hold the view that African interests in the multinational projects they set up, by themselves and for themselves, are only short-lived. Often some assert that their assistance is meant for truly multinational projects and not bilateral projects which should be negotiated for individually by the countries concerned. As it were, they tend to sit on the fence, withholding their assistance until the two major problems aforementioned have been solved.

The procedures for the negotiations of bilateral and multilateral technical co-operation are often cumbersome and time consuming. When the exploratory contacts are first made by the would-be recipient(s) of the technical assistance, areas of mutual co-operation, their extent in the form of inputs from both sides are provisionally agreed upon. Thereafter, project documents (PRODOCS) are formulated by the ECA responsible officers in collaboration

with the beneficiaries in respect of those TCDC project for which it is going to act as the executing agency. More often than not, a period of one to two years may lapse before anything is heard one way or the other from the donor country(ies). In the meantime, it is injudicious to proceed with the execution of the project lest it is abandoned mid-stream for failure to obtain the supplementary inputs from the donor(s). Even when the "Memorandum of Understanding" has been signed, the late release of funds constitutes another bottleneck. The lifetime of a grant under technical co-operation agreements is disadvantageously reckoned from the time the agreement is signed, rather than from the time of release of funds. More often than not, the donor(s) demand(s) the surrender of the unencumbered balance(s) at the expiry of the life of the project even when it is still in progress.

There are also some instances when purchases(e.g. equipment, machines, etc) under some budget lines in the PRODOC, recruitment of experts or consultants, and utilisation of fellowships are outside the control or management of the recipients. Considerable time is therefore lost in procuring the equipment, place the trainees in the ear-marked institutions abroad and get on board the experts or consultants. There is need, therefore, to ameliorate these states of affairs if the recipients are to benefit maximally from the original assistance/grant under the technical co-operation.

7. Suggested solutions to the problems identified

In section 6 of this paper, I have tried to identify some problems in development and operation of technical co-operations firstly, among African countries themselves and, secondly, between the bilateral and multilateral donors, and the African member States who are the recipients. The solutions I wish to offer in overcoming those problems are not far-fetched. They are as a matter of fact, preventive approaches to curing those banes that clog the wheel of effective realisation of the targets aimed at in the "Memorandum of Understanding" on which the Work Plans for implementation are based. These suggested solutions are extractable from the expositions in the various Sections of the paper, and are to be addressed to both the recipient entities and the participating giver-partners.

In summary, African countries should develop more visible consciousness or awareness of their obligations to develop TCDC activities with minimal supplementary support for expertise and finances than hithertofore. In effect, they should be obliged to participate actively in the running and management of TCDC institutions established at their instance for their mutual benefits. This means, in addition, that they should promptly honour their financial obligations for the effective sustenance of those TCDC institutions. Furthermore, African financial institutions should expand their lending activities beyond the sub-regional boundaries of their operations.

Technical co-operation partners in TCDC projects should relax the rather stringest conditions which often result in delays in implementation of the mutually agreed projects. How to go about this should evoke some interesting discussions during the deliberations of Technical Working Group VI-7.

Conclusion

The views expressed in this papers are those of the author and do not necessarily represent those of the Economic Commission for Africa. In the event of the author not being able to present and speak to this paper, queries on any portion of it may be raised with him through correspondence for elucidation.

The purpose of this paper with regard to the current procedures in Africa on multilateral and bilateral technical co-operation in the fields of cartography and remote sensing as handled by the ECA, would have been met if it provides more than a mere glimpse into the African view with regard to bilateral and multilateral technical co-operation.

In concluding this paper, let me say without fear of any contradiction that there are two sides to the coin. From the African member States' side, the moral and political support in embracing TCDC activities, should be backed up materially and financially in order that those activities may yield the desired fruits. On the other side of the coin, the technical co-operation partners should be more flexible in the administrative procedures so that they can be seen as truly voluntarily participating.

Finally, let me thank sincerely the organizers of the XV International Society of Photogrammetry and Remote Sensing (ISPRS) for inviting the organization I serve to participate, and the opportunity offered me in contributing this paper.



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