

PD-ABD-048

Keep

**REGIONAL REMOTE  
SENSING**

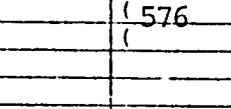
698 - 0414

**PROJECT PAPER  
AMENDMENT**

REDSO/EA

authorised

AUGUST 31, 1982

<b>AGENCY FOR INTERNATIONAL DEVELOPMENT</b>			<b>1. TRANSACTION CODE</b>		<b>DOCUMENT CODE</b>				
<b>PROJECT DATA SHEET</b>			<input checked="" type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete		Amendment Number <u>3</u> DOCUMENT CODE <u>3</u>				
<b>2. COUNTRY/ENTITY</b>			<b>3. PROJECT NUMBER</b>						
AFRICA-REGIONAL			698-0414						
<b>4. BUREAU/OFFICE</b>			<b>5. PROJECT TITLE (maximum 40 characters)</b>						
AFRICA/RA			REGIONAL REMOTE SENSING						
<b>6. PROJECT ASSISTANCE COMPLETION DATE (PACD)</b>			<b>7. ESTIMATED DATE OF OBLIGATION</b>						
MM DD YY 06   30   34			(Under "D:" below, enter 1, 2, 3, or 4) A. Initial FY <u>82</u> B. Quarter <u>4</u> C. Final FY <u>83</u>						
<b>8. COSTS (\$000 OR EQUIVALENT \$1 = )</b>									
<b>A. FUNDING SOURCE</b>		<b>FIRST FY <u>82</u></b>		<b>LIFE OF PROJECT</b>					
		B. FX	C. I./C	D. Total	E. FX	F. L/C	G. Total		
AID Appropriated Total		576	606	1,182	1,980	1,792	3,772		
(Grant)		( 576 )	( 606 )	( 1,182 )	( 1,980 )	( 1,792 )	( 3,772 )		
(Loan)		( )	( )	( )	( )	( )	( )		
Other									
U.S.									
Host Country			944	944	50	1,214	1,264		
Other Donor(s)									
<b>TOTALS</b>		576	1,550	2,126	2,030	3,006	5,036		
<b>9. SCHEDULE OF AID FUNDING (\$000)</b>									
<b>A. APPRO- PRIATION</b>	<b>B. PRIMARY PURPOSE CODE</b>	<b>C. PRIMARY TECH. CODE</b>		<b>D. OBLIGATIONS TO DATE</b>		<b>E. AMOUNT APPROVED THIS ACTION</b>		<b>F. LIFE OF PROJECT</b>	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	754	876		2,590		1,182		3,772	
(2)									
(3)									
(4)									
<b>TOTALS</b>				2,590		1,182		3,772	
<b>10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)</b>							<b>11. SECONDARY PURPOSE CODE</b>		
		877	878	874			771		
<b>12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)</b>									
A. Code									
B. Amount									
<b>13. PROJECT PURPOSE (maximum 480 characters)</b>									
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;">         To assist the host regional organization to provide training in remote sensing to host country personnel in the countries of East and Southern Africa and to utilize the existing pool of trained manpower and interest in remote sensing applications by undertaking project support activities in the various client states.       </div>									
<b>14. SCHEDULED EVALUATIONS</b>					<b>15. SOURCE/ORIGIN OF GOODS AND SERVICES</b>				
Interim		MM YY	MM YY	Final		MM YY			
		10 83				05 84			
							<input checked="" type="checkbox"/> 600 <input checked="" type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify)		
<b>16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)</b>									
This amendment extends the PACD for 16 months from 2/83 to 6/84 and incorporates funding to support a continuation of project activities for that period.									
<b>17. APPROVED BY</b>					<b>18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION</b>				
Signature  Title Acting Director, REDSO/EA					Date Signed MM DD YY 06   04   82				
					MM DD YY 				

PP AMENDMENT

TABLE OF CONTENTS

	<u>Page No.</u>
Face Sheet	
I. Summary & Recommendation	1
II. Project Description	3
A. Background	3
B. Project Strategy	3
C. Revised Project Description	5
1. Host Organization	5
2. Training	6
3. Project Support Services	7
4. Revised Project Purpose, Outputs, Input	11
III. Project Analysis	15
A. Financial Analysis and Plan (revised)	
IV. Implementation Arrangements	17
A. Administration details	17
B. Revised Implementation Schedule	17
C. Evaluation Plan	18
D. Conditions and Covenants	19
<u>Annexes</u>	
1. Revised Log-frame	
2. Financial backup and equipment lists	
3. Training Information	
4. User information	
5. AID/W Guidance and Responses	
6. Organizational relationships	
7. Host Organization request for assistance	
8. Project Evaluation Summary, August 1981	
9. Statutory Checklist	

## I. SUMMARY AND RECOMMENDATIONS

### A. Face Sheet - (See previous page)

B. Recommendations: This project paper amendment recommends that AID continue to assist the Regional Center for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) in the project designed to apply remote sensing technology to appropriate African development problems. AID will provide \$1,182,000 toward costs to be incurred during the 16 month extension period increasing the total Life of Project contribution to \$3,772,000. No special conditions on the part of the host organization are considered necessary for successful implementation of the project.

### C. Summary Project Description

Since 1977 the Remote Sensing Project has been developing the capability of East and Southern African countries to utilize remote sensing technologies for development purposes. A substantial number of client states employees have been trained and an operating facility for remote sensing has been well established with photo laboratory and user services available. The current remote sensing training and service activities will continue during the proposed 16 month extension, but emphasis is to be placed on longer term training (3 months rather than 2-3 weeks) and on developing a project support capability to perform actual field applications using remote sensing technology at the request of various client states. The proposed project extension should considerably enhance the value of training and the utility of applied remote sensing technology from the point of view of the client states whose interest and utilization is paramount in the long term establishment of the Center.

### D. Summary Findings

The project paper amendment includes a revised financial analysis and plan, a revised implementation plan and a revised evaluation strategy. The amendment has been reviewed with the host organization and is largely responsive to their requirements. The project meets all applicable statutory criteria and is ready for the immediate commencement of implementation activities upon authorization.

E. Issues

The only significant issue concerning this project paper amendment is concern over the long-term financial viability of the host organization. While Section III discusses financial viability in greater detail and the evaluation called for in Section IV will provide concrete evidence of use, interest and support by member states, the financial viability question remains unanswered not only for the amendment period, but also for any consideration of possible AID funding after that period.

## II. PROJECT DESCRIPTION

### A. Background

The Regional Remote Sensing Project was conceived of and designed by AID to work with the host organization, then named the Regional Center for Services in Surveying and Mapping (RCSSM) to support the transfer of those aerospace technologies applicable to resource analysis, monitoring and mapping. The U.S. Government has led the world in the development of space based technologies which make such monitoring and analysis possible on a continental or regional scale. This project is one that is specifically designed to make the benefits of these technological innovations available to East African countries. Activities commenced as a centrally funded activity (931-1166) in 1977, with the present project starting in 1979. These combined activities have provided 3 long term technical advisors, endowed the host organization with modern, effectively functioning equipment, provided remote sensing related training to over 270 Africans, provided substantial quantities of processed imagery and created a well-used document browse file (See Annexes 3 and 4 for details). The awareness of the value and utility of remote sensing technologies in East and Southern Africa has been considerably enhanced by these activities.

### B. PROJECT STRATEGY

During the five years of project activity a substantial number of accomplishments have and are continuing to take place (See Annexes 3&4). Nevertheless, the overall impact of project activities to date has been more "passive", i.e., Nairobi located training and facility development, rather than "active", i.e. seeking out client state interest in utilizing remote sensing technology and providing in-country services to client states which would attract the attention of higher-level decision makers as to the utility of such technology. In implementation certain delays and difficulties have occurred. Not having a ground station with access to current data may have limited client state interest. Limited coordination within the various African institutions related to remote sensing has caused some confusion and lack of coherent strategy to utilize remote sensing. As a consequence, financial support from donors and client states has tended to be restrained (see Financial Analysis Section III below). However, progress has been made, and it is projected that during the next 12-18 months a number of events indicating a solid institutional

development and a move toward active "marketing" of remote sensing technology will take place. The combined impact of these events (described below) and an awareness on the part of AID that technology transfer of this sophisticated nature has a very long lead time from implementation to client state acceptance, plus a realization of the value that remote sensing has for bilateral AID and other donor projects in Eastern and Southern Africa, leads to the recommendation that AID continue to support this project to June 1984, an extension of the current project for 16 months.

This period of time will not guarantee the continuity of regional remote sensing activities, but will help to consolidate achievements to date and test active "marketing" by the host organization.

Developments expected to take place prior to the end of the extension period include: a) appointment of an African director for the Remote Sensing Department (recruitment currently underway); b) completion of the Center's new physical facility; c) improved coordination between the Center and the African Remote Sensing Council (ARSC) leading to greater client state support (see Annex 6); d) continued training both of counterpart staff and of client state candidates; and e) increased client state utilization of the Center's services. In the context of the last development, AID anticipates much closer coordination between the Remote Sensing project, other regional projects such as the AID Environment Training and Management Assistance project (ETMA), and other specific natural resource oriented bilateral projects, whether funded by AID or other donors. Without any commitment, this project paper amendment seeks to preserve AID options as related to the Center for transfer of U.S. remote sensing technology for an interim period to permit the developments described above to evolve. Should such developments be sufficiently positive, AID could, in concert with appropriate other donors, consider a subsequent phase of activity which might substantially expand the role and use of the project support team (see Section B below for expanded description). Any decision for continued funding would depend not only on meeting benchmarks under this amendment but also funding availabilities and priorities at that time.

In the event that the proposed project extension is not approved the consequences of an early termination of activities are as follows: (a) the final two courses scheduled for the fall and winter of 1982 would be cancelled to permit maximum

interaction of the technical assistance team and the counterpart staff of the center (b) with the exception of the Zambia project commencing in June 1982, no project support activities would be undertaken, leaving untested an opportunity for utilizing the response team approach which would build upon client state interest in using U.S. remote sensing technology (c) the quality and quantity of services remaining at the Center would be diminished as there would be no additional interaction with the technical assistance advisors; (d) the likelihood of client state use of remote sensing and transferred U.S. technology would be greatly restricted just at a time when heightened awareness spurred by the launching of Landsat D might cause substantial interest in such technology; and (e) the overall justification for the co-location of the proposed ground station would be weakened.

### C. REVISED PROJECT DESCRIPTION

This revised project description primarily presents only that descriptive material which should be considered new, or of renewed emphasis. Sections within this revised project description include information on the host organization, training activities, project support activities, and revised purpose, and input information.

#### (1) Host Organization Structure and Support:

The Regional Center for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) is an African Regional Organization sponsored by UNECA but financially supported by Kenya, Tanzania, Uganda, Somalia, Malawi, Comoros, Zambia, Lesotho and Swaziland. The recent change in name of the Regional Center is significant in that it formally incorporates the Remote Sensing Facility as a department of RCSSMRS and acknowledges the importance of coordination with the ARSC. It provides building accommodation and administrative staff support, shares technical equipment and has recently begun paying the salaries of locally hired staff of the Facility. Through an arrangement with the Survey of Kenya it also gives the Facility access to the surveying and map printing capabilities of that organization. Active departments of the Center include administration, library, calibration and maintenance, printing and cartography and geodesy. The Remote Sensing Facility now functions as a semi-autonomous Department of the Center and greatly complements the activities of the other existing departments (As this amendment deals with activities in the

future, references to the Remote Sensing Department are synonymous with the Remote Sensing Facility).

(2) Training

As of March 1982, the Remote Sensing Department has sponsored 13 three-week specialized short courses with a total of 268 participants from 14 countries in East and Southern Africa. In addition four information seminars have been held in the participating countries with a total of over 200 attendees. Individualized training is regularly carried on in Nairobi.

In response to recommendations by both AID and ECA evaluation teams; the Department offered the first extended training course in March 1982. This course followed the same format as previous courses for the first two weeks. Following this initial orientation, the participants returned to their places of work to continue project work that had been agreed upon prior to their enrollment in the course. The Department will provide satellite imagery and aerial photography for the continuation of these projects in accordance with plans developed during the orientation in Nairobi. The participants will be visited periodically by consultants as their work progresses. They will reassemble in Nairobi in August for a concluding seminar.

At the present time, training is the Department's strongest suit and the area in which there is the most experience. The classroom and training aids available are considered excellent, even in the present quarters. The proposed new building will contain an even larger classroom and better training facilities.

The present staff are all experienced in conducting on training courses. In addition, the Department has access to a growing number of consultants who provide specialized expertise as needed for the courses. Based on comments received from evaluators, visiting remote sensing specialists and course participants the quality of the training offered by the Department is considered as good as that which can be found anywhere short of long term university programs.

The Department plans to continue its training and technical assistance program at an expanded level. Specialized training in agriculture, land use monitoring, range management, water management, water resource utilization and others will continue. Anticipated changes in the training program include a gradual shifting of financial responsibility from the Department to the participants or their sponsoring agencies and

the introduction of extended training courses. Beginning in calendar year 1982, the participants or their sponsors have assumed responsibility for travel to and from Nairobi. Later there will be a gradual assumption of per diem and training costs. Subject to the successful outcome of the first extended training course mentioned above, it is expected that this form of training will continue.

The Department plans that four more courses will be held during the 16 month extension period of the proposed amendment. For details and schedule see Annex 3.

### (3) Project Support Services

Over 100 projects in the region have been assisted with satellite imagery, aerial photography and/or technical assistance in the form of image interpretation, specification writing etc. Approximately \$15,000 worth of specialized photographic images have been produced in the Department's photo laboratory for users in the region. In addition some 8,000 black and white prints have been reproduced for the Department's reference files. Other specialized products have been distributed to users in the region for demonstration purposes. Two experimental maps, five brochures, three training illustrations and have also been produced.

Historically, the Department is approached by a client to supply imagery to resolve a natural resource problem using little or no background data. However, after producing the imagery the Department has seldom been in a position to follow up with analysis and report presentation. Often the host country has to bring in a short-time consultant to finish such work. In this way there has been no effort here to build up in-country ability to handle such work. In answer to this, the Department is developing a response mechanism called EXTRA, an "Expert Team" for Resource Assessment made up of local expertise and drawing on the large number of experts already trained by the Department. This outreach capability will be a new initiative that is expected to provide exposure and create additional demand for use of remote sensing techniques to help take development problems in member countries.

In addition to available qualified personnel, the combined physical resources of the Center are suitable for major project support. The division maintains the most extensive collection of satellite imagery of any organization in Africa. A modern photo laboratory is available for making color reproductions in a variety of formats, color renditions and scales. Limited

multispectral aerial photography support is available through the use of cameras available at the Department and rented aircraft. Conventional surveying equipment is available through the host organization. A limited computer analysis capability will be installed to further analyze remote sensing information.

Given this capability the Department will have a service/project orientation more specifically tailored to the solution of environmental issues, with additional training taking the form of supervised project work. Such a project oriented format will be more closely tied to national programs so small groups of countries might together have a training program in-country which involving national agencies in the use of remote sensing to address major problems. For example, the study of the hydrology of a major area (e.g. The Lake Victoria basin) would attract participants from Kenya, Tanzania and Uganda drawn from the relevant agencies and working to produce a regional report. They would utilize Nairobi facilities and specialist consultants, where required, drawing on expertise in the region as much as possible. Other topics which might be addressed would be crop yield estimation in the Southern Africa Development Coordinating Conference (SADCC) countries, rangeland monitoring throughout East and Southern Africa, forest depletion on a national or regional basis, or map revision using satellite remote sensing data. Another example comes from USAID/Sudan which needs some background information on the present status of the River Nile channels. A three-stage project is needed; 1) initial topographic survey using imagery and existing aerial photography; 2) a hydrographic depth survey; and 3) a study to project the effect of the Jonglei Canal on the depth and direction of the permanent channels. The Department could assemble and guide an EXTRA team to tackle the first stage. It could also draft a scope of work for the remaining two stages.

Operational Details - In order to provide support services in natural resource analysis and management the Department would have respond to requests of various levels of sophistication. For example, an initial request for the current woodlot and forest cover in Uganda, would be met with a look at the available data at the Department. This would reveal that the data for region "X" was very good, that for region "Y" was quite poor due to cloud cover, etc, and a response would be ready in a matter of days.

A further step would be for the EXTRA team to come up with a specific focus. They would analyse enlargements of specific

areas, sharpen the contrast, match the images to a map base, etc. At this stage a forester from the host-country could be brought in to convert the results to a general forest or woodlot map. The EXTRA Team would decide whether or not this would suffice in satisfying the original request. If more detail were needed they would proceed to the further step.

The final step would be to go into much more detail in-country, which might include ground sample surveys, light aircraft flights, inspection trips by forestry or in-country agricultural extension workers, etc. To achieve an acceptable level of accuracy such a survey would require approximately 2-3 months.

#### Staffing and Financing

To provide EXTRA Team responses it will be necessary to coordinate existing staffing at several levels. In terms of the overall Department, the contractor's Chief of Party reports to the Department director and on his behalf would co-ordinate the efforts of the advisor of the photographic complex and the advisor of the computer and analysis equipment.

In addition to the advisory (contractor) and counterpart (Center) staff, there would be a local coordinator in the host country who would alert and organize any of the former Department trainees (alumni) to the EXTRA Team activity. Regional staff would also be an asset. For example, the expertise within organizations such as the ECA or specialists brought in as part of the USAID-ETMA project could be employed. Lastly, there could be an important input from the Science and Technology Bureau (AID/W) to supplement the Team composition. In summary, staffing would be at five levels:

- (1) Advisory (contractor)
- (2) Counterpart (Center)
- (3) Local coordinator and former trainees (Host-country)
- (4) Regional staff (ECA/ETMA)
- (5) Development support (S&T AID/W)

In terms of financing for EXTRA teams, it is intended that such multidisciplinary teams would be financed by the client in terms of operating costs, extra consultants not on the RCSSMRS or contractor staff, airfare, per diem, commercial computer time, etc. These costs will have to be negotiated between the client state and RCSSMRS at the time of the development of the initial scope of work. AID's only special input (See Financial Analysis

below, Section III) is \$40,000 to encourage the RCSSMRS to coordinate and utilize talent available in neighboring African states.

Facilities - Much of the early work by the EXTRA Teams will be at the Center in Nairobi, after which they would move into the field for detailed analysis and writing of draft reports. The production activity of the photographic laboratories would continue with the proposed new darkroom to handle the NASA image collection. By integrating project and teaching work there will be less demand on the photographic laboratories to produce material purely for teaching and demonstration purposes. Thus the productivity of the laboratory will be more often in areas of application.

Long-term Effort - In addition to assembling, training and fielding EXTRA teams the Department will become more closely integrated with AID and other donor activities in the region. This would be accomplished by working closely with the USAID-ETMA project, and more especially with the REDSO Energy/Natural Resources Preassessment exercise, which is just getting underway. As the preassessments are completed they will be pointing the way for natural resource management in several key East and Southern African countries. The Department intends, where possible, to respond with EXTRA Teams fielded to help in the Preassessment stage, measuring the extent and location of key natural resource problems. Later, when the options are presented to the USAID Missions as to specific needs (information gaps to be filled, training courses necessary in natural resources, etc.), the Department could help especially in terms of information dissemination.

Information Dissemination - The most effective way to disseminate information is by specific example. Thus the training and demonstration materials currently being produced should be more focused and linked with project or EXTRA Team reports. Abstracts of these reports would then be used as the basis for "Applications Brochures" for teaching and demonstration purposes.

In summary, the Center has the capability for conducting a wide range of mapping and resource analysis projects. Staff may need to be supplemented with outside consultants but the overall technical capability at the Center is probably as good as can be found anywhere in Africa.

(4) Purpose, Outputs, Inputs

Given the continued emphasis on training in remote sensing and the enhanced emphasis on project support operations, it is appropriate to refine the relatively loose project purpose statement found in the project paper (see Page 16 of PP). The purpose of the project, as justified in this amendment, is (a) to provide training in remote sensing and associated techniques to host country personnel of the countries of East and Southern Africa and (b) to utilize the existing pool of trained personnel and interest in remote sensing applications by undertaking project support activities in various client states.

The outputs necessary to achieve the purpose remain essentially as described on Page 19 of the PP. The pattern of inputs will also remain consistent with those described on Page 16-17 of the PP but are explained in greater detail below:

(a) Technical assistance (See Annex 2) - Three long-term contract personnel from Spectral Data Corporation (SDC) will be continued throughout the project amendment period. These persons are a program manager in charge of training, an applications specialist and a photo specialist. Short term consultants will be available through the contractor, through the existing PASA and through the contracting capabilities of the Center (for locally available African expertise).

(b) Training - funding for 28 months of participant training prior to June 1984 is included. Proposed training courses include 12 months training for John Baraza (user services) in natural resources at the University of Michigan starting September 1982 during which the participant will complete all coursework for an M.S. Luka Isavwa (Applications Specialist) will follow a similar 12 month course of study in South Dakota State in range management starting March 1983. A two month orientation visit is projected for January 1983 for both the newly hired Director of the Division and for the training counterpart, also a newly hired individual.

(c) Commodities: (See Annex 2) - Project commodities fall into three categories; initial computer capability, provision and installation of piping, electrical and specialized commodities for the photo processing and other technical activities of the Remote Sensing Department's portion of the Center's new physical facility, and assorted supplies for operations including new imagery.

(i) Digital Processing System

Data from the Landsat satellites are received in digital form by ground receiving stations. These data can be utilized in two ways. The digital data may be converted into photograph-like images which are used like photographs and analyzed by conventional photo interpretation methods. By far, most of the information which has been extracted from Landsat images to date has been extracted by photo interpretation.

Because Landsat data are recorded in digital form, there is considerable opportunity for digitally analyzing data using appropriate computer systems. Computers offer superior analysis capability for certain tasks. Because more and more resource data originate in digital form, there is a definite trend in the direction of digital processing. Furthermore, computer capability is expanding rapidly while at the same time the costs of the hardware required to achieve a given capability is being lowered.

Based on repeated evaluation recommendations and in order to maintain its leadership in promoting modern resource analysis techniques, the Remote Sensing project needs to acquire digital processing capability. As the host organization, the Regional Center plans to acquire some computer capability during the coming years, it is important that whatever capability that is acquired for Remote Sensing be coordinated with overall Center computer development.

Assuming the Center delays acquisition of computer capability for more than two years, the Remote Sensing project should acquire a small stand-alone system. Such an analysis package which would assist in the Department's near term activities, is one similar to the Earth Resources Data Analysis - ERDAS 400 described below. A very important component of this system in addition to the analysis of remotely sensed data is its geographic information system capability. This allows the integration of various types of information such as forestry, agriculture, soils, land use and topography, for environmental analyses. The cost of this system and optional equipment is:

Standard ERDAS 400 System (as of May, 1981)	\$ 60,000
including, Shipping, installation & training (Approx)	

and Nine track tape drive option	
and TRILOG color hard copy device option	
Total	

\$ 60,000 U.S.

Systems such as the ERDAS 400 are being rapidly introduced into the commercial market. Similarly, components and optional equipment are changing. The ERDAS 400 system is presented as being illustrative of a suitable system for the Department but the specific system and optional equipment to be obtained will be a function of a thorough evaluation of available equipment and the mission of the Department at the time of purchase. Additions to a basic system may be necessary in the future to meet more fully the needs of the Department and to fully integrate with the Center's equipment. A consultant will be retained early in the project by the Center to analyze both remote sensing and general Center needs. Based on the consultant's recommendations and developments within the Center, a final decision will be made as to the type of digital processing equipment to be acquired.

(ii) Fixtures concerned with the distribution and use of water, electricity and other special requirements. The Remote Sensing Department has unusual needs in terms of locations and quantities of water, amounts and kinds of electrical power, some air conditioning and other specialized fixtures. The present physical facility, cramped as it is, is reasonably well supplied. The new physical facility being built by RCSSMRS will provide double the space for the Remote Sensing Department. Although a maximum amount of salvage of fixtures will be done, there are requirements for additional pipe, cable, fixtures, etc. To assure the effective implementation of the Remote Sensing Department in the new physical facility, AID will provide \$85,000 to cover such costs (see Annex 2 for details). REDSO engineers have reviewed this proposed input and will confirm the acceptability of any commodities to be procured before procurement is initiated.

(iii) Photo Lab Accessories and Supplies

Approximately \$25,000 will be required during the next phase of the project for imagery supplies and equipment to maintain and upgrade photo lab operations. This figure includes \$15,000 for expendables such as paper and chemicals.

(d) Other costs - operating costs including costs of training courses have been running at approximately \$25,000 per month. Given that the Center will be attempting to secure some participation by client states in paying per diem costs of trainees in Nairobi and also given that sale of imagery will bring in some income (see section 2 below), this item has been budgeted at \$400,000 for the 16 month period.

Host institution contributions remain as described on Page 17 of the PP with the exception that all counterpart salaries will now be covered by their resources. We view this as a very positive step, the value of which has been placed at \$160,000 equivalent. In addition, action has commenced on building a new physical facility which will double the available space for the Center and relieve the congestion currently present in the Remote Sensing division.

Other donor activity in the Center is substantial, although AID continues to be the predominant donor for the Remote Sensing Department. The UNDP is starting a Geodesy project in the Center in 1982 with funding of \$1,000,000. The project is expected to last 5 years and cost \$1 million, IDRC is providing C\$295,000 to the Center over a two year period to strengthen the Center's mapping department. Also, French technical assistance has provided the services of an agronomist/remote sensing expert whose presence will not only strengthen remote sensing analysis but will also enhance interest in remote sensing in Francophone East Africa. A number of other donors including EEC, Scandinavian, Swiss and West German governments continue to show interest and study possible participation.

### III. PROJECT ANALYSES

Those analyses provided in the original project paper (pages 19-33) remain essentially valid with the exception of needed modifications in the financial analysis.

#### A. Financial Analysis

1. AID's contribution - The project paper provided \$2.364 million for project costs. This amount was increased on December 24, 1981 to \$2.590 million to cover costs involved in providing a 5 month extension of the PACD to February 26, 1983

This amendment proposes to increase the life-of-project funding by \$1,182,000 to a new total of \$3,772,000, to cover costs for the period March 1983 - June 1984 (see table I). Funding will cover: technical assistance (3 persons for 16 months each), a limited amount of short term consultant time (4 pm), a modest list of commodities valued at \$170,000 (see Annex 2 for details), and continued support for division operating costs (\$400,000). Also included is a small amount of funding (\$40,000) which the Center will use in securing the services of qualified Africans to participate in project support team activities, and an amount (\$85,000) that will be used to procure special water, electrical, and other requirements for the Remote Sensing Department in the Center's new physical facility being constructed during this 16 month period. See Budget Table II.

#### 2. Host Organization Contribution to the Project:

These two principal sources of the host organizations contributions are: (a) the Center's provision of physical facilities and payment of counterpart salaries, derived from member state subscriptions to the Center, and (b) the sale of products sold by the Remote Sensing Department. The latest status of member state subscriptions is shown in Table III. Kenya, Uganda and Tanzania are currently bearing the greatest share of financial support to the Center. Comoros, Lesotho, Swaziland, and Zambia have made limited payments upon joining, reflecting the difference between their budget years and that of the Center. Malawi and Somalia, original members of the Center when it was formed, remain in arrears in term of financial contributions though they participate in other Center activities. The question of arrearages is of considerable concern to the Governing Council which plans to aggressively seek to pursue the objective of reducing arrearages and seek new signatory and contributing members during the coming year (See Evaluation Section IV C below). In terms of the Center's

TABLE 1

SUMMARY COST ESTIMATE AND FINANCIAL PLAN, FY 77-84

(US \$000)

Category/Source	Current Funding				Amendment				Total	
	FX	AID* LC	FX	Host Organization LC	FX	AID LC	FX	Host Organization LC	FX	LC
Personnel	1555	420	-	120	365	37	-	225**	1920	902
Training	194	241	-	-	71	-	-	144	265	385
Construction/ Rental	-	-	-	100	-	-	-	400	-	500
Commodities	515	115	50	50	140	42	-	-	705	207
Other Costs	-	616	-	-	-	427	-	175	-	1218
<b>Total</b>	<b>2264</b>	<b>1392</b>	<b>50</b>	<b>270</b>	<b>576</b>	<b>606</b>	<b>-</b>	<b>944</b>	<b>2890</b>	<b>3212</b>
<b>Combined Total</b>		<b>3656</b>		<b>320</b>		<b>1182</b>		<b>944</b>		<b>6102</b>

\*includes Project 931-1166 and 698-0414 as amended 24 Dec. 1981.  
Line items include an allowance for inflation and contingency.

\*\*Includes all counterpart salaries from Feb. 26, 1983 to June 30, 1984.

TABLE II

Budget for March 1983 - June 1984

I. Technical Assistance	
Long-term (SDC contract)	407,000
PASA (Short-term) 2pm	15,000
Locally contracted consultants 4 @ 10,000	40,000
Expert for evaluation	<u>7,000</u>
	469,000
II. Training	
28 pm	66,000
III. Commodities	
Computer	60,000
Electrical, water and special fixtures	85,000
Imagery and other	<u>25,000</u>
	170,000
IV. Other costs (operating costs @ 25,000 per month)	<u>400,000</u>
Subtotal	1,105,000
Contingency 7%	<u>77,000</u>
Grand total	<u>1,182,000</u>

provision of physical facilities and paying counterpart salaries, Table II shows the dimension of that contribution. It should be noted that the assumption by the Center of all counterpart salaries is new with this amendment and shows evidence of the organization's concern in taking on the responsibilities of the Remote Sensing Department.

The sale of imagery is one potential source of income which is now being actively expanded. Income from the period April 1981 - March 1982 was KShs. 146,337 (see Annex 4). Over a 16 month period such income could be extrapolated to KShs. 180,000. Given a projected 20% increase in prices, income for the 16 month period would be KShs. 216,000. Quantity increases of a reasonable amount during the 16 month period lead to an overall potential projected income of approximately KShs. 300,000. This income level is based on assumptions that the photo lab has no significant difficulties in maintaining a high production capacity and, more significantly, that users in the serviced areas require that volume of production and have the financial resources to pay for such production. To put such income in perspective, the amount earned by the photo lab over a 16 month period would suffice to cover an average month of operating costs of the Department.

### 3. Financial Viability:

Full member state contributions (or continued support by AID and/or other donors) are essential for the Center or the Department to approach financial viability under the present circumstances. Present budgeting procedures are for the Governing Council of the Center to develop and pass an annual budget. This is then divided according to ECA assessment procedures among the client states. A client states' subscription thus reflects all costs, including inflation, for the current year. If all subscriptions were current, sufficient funds would be available to operate the Center's activities (excluding donor provided technical assistance and training). As subscriptions overall are in arrears, the adequacy of member state contributions constitutes one of the elements of the proposed evaluation in October 1983.

TABLE III

STATEMENT OF CONTRIBUTION AS AT 31ST MARCH, 1982

(Amount expressed in U.S. Dollars)

Countries	ARREARS AS AT 1/7/81	ADD: 1981/82 BUDGET APPRO- PRIATION	TOTAL	DEDUCT CONTRI- BUTION RECEIVED DURING 81/82 i.e. UP TO 31/3/1982	CONTRIBU- TION DUE AS AT 31/3/1982
Comoro	-	106,721	106,721	-	106,721
Kenya	9,057	326,621	335,678	276,927	58,751
Lesotho	-	106,722	106,722	-	106,722
Malawi	978,175	106,721	1,084,896	-	1,084,896
Somalia	958,118	106,722	1,064,840	-	1,064,840
Swaziland	-	106,721	106,721	-	106,721
Tanzania	(1,559)	234,938	233,379	238,916	(5,537)
Uganda	432,708	169,051	601,759	256,513	345,246
Zambia	-	213,443	213,443	12,357	201,086
	2,376,499	1,477,660	3,854,159	784,713	3,069,446

**IV. IMPLEMENTATION ARRANGEMENTS**

**A. Administrative Details**

Implementation arrangements do not vary substantially from those described in the original Project Paper (see pages 34-36). It is intended that the major technical assistance contractor (SDC) will be retained to provide services during the 16 month project extension. This will be done through an amendment to their current contract. Likewise the existing PASA with USGS will be kept functioning as a source of meeting specific short term needs. Commodity procurement procedures will be consistent with current procedures. Participant training will follow standard PIO/P procedures. The only deviations in implementation arrangements from those already presented in the Project Paper will be in contracting for African consultants to join the EXTRA teams and in processing plumbing, electrical and other specialized fittings for the Center's new physical facility. In these cases the Center's contracting capability will be used. Since the Center is a recognized regional African organization sponsored by ECA and abides by accepted contracting and procurement practices, these activities should require no more than normal review and approval by REDSO/EA.

Coordination within AID will necessarily be altered by the departure of the present AID direct-hire Director. Currently an AID project officer in REDSO handles those responsibilities required of project management. In the future, the project officer will be required to spend more time on the details of project management. He will also coordinate management of the Remote Sensing project with the REDSO Natural Resources Team to ensure maximum in-house interaction with other AID projects such as ETMA, Energy Initiatives, etc.

**B. Revised Implementation Schedule**

July 1982	PP Amendment authorized
July 1982	Grant Agreement amendment signed
July 1982	PIO/T to Amend SDC Contract Provided to AID/W
July 1982-Feb. 1983	Continuing training and project support activities under existing project funding.
September 1982	1st Participant departs for 12 month training
November 1982	African director of Remote Sensing Department installed.

20

January, 1983	2 month orientation training for new Director and for newly hired training counterpart
Jan/Feb. 1983	Training course on energy/environment applications of Remote Sensing.
Feb. 1983	Commencement of Long term energy/environment course.
March, 1983	Initial EXTRA Team effort (client to be identified)
March, 1983	Commencement of Long-term Remote Sensing/cartography course.
March, 1983	2nd Participant departs for 12 month training
July, 1983	End of Energy/environment course
July, 1983	Additional EXTRA Team (client to be identified)
August, 1983	Commencement of Long-Term Agriculture/Rangeland course.
September, 1983	1st Participant returns
October, 1983	End of Remote Sensing/cartography course.
October, 1983	Project evaluation
November, 1983	Additional EXTRA Team effort.
November, 1983	Commencement of Long Term course on forestry/fuelwood.
February, 1984	End of Agriculture/Rangeland course.
March, 1984	Additional EXTRA Team effort.
April, 1984	End of Forestry/fuelwood course.
March, 1984	2nd Participant returns
June, 1984	Contractor demobilizes.
June 30, 1984	PACD

### C. Evaluation

This project paper amendment calls for a project evaluation in October 1983, with the participation of one technical specialist in remote sensing application. The timing and the quality of this evaluation are critical as both other donors and AID will be examining the evaluation for guidance regarding any continued participation in remote sensing on a regional basis.

In preparation for that evaluation the Remote Sensing Department has already been collecting statistics on a number of indicators which will show evidence of use by and support of client states. These "countable objectives" will be used in addition to the technical evaluation by the technical specialist in determining the quality of client state interest.

The "countable objectives" include:

1. User contacts on a monthly basis - the target is 45 per month by the end of the amendment period (as a measure of potential demand).
2. Number of persons nominated by the client states - the target is 120 trainees nominated.
3. Number of persons trained (whether in Nairobi or at training sites in the client states) - the target is 100 trainees trained.
4. Quantity of products sold and monthly value of that quantity (on a monthly basis) - the target is K.Shs. 20,000 per month.
5. Number and value of services provided by the EXTRA teams - the target is 4 EXTRA team tasks completed with a value of approximately \$300,000 (excluding client state costs of logistics in-country).
6. Client state contributions to the Center's budget (including resources mobilized by the Center from other donor services) - the target is to demonstrate a 25% improvement in collection of client contributions.

Depending on the outcome, such an evaluation may lead to AID terminating project assistance as scheduled in June 1984, or to AID's consideration of developing a second phase of support for regional remote sensing activities.

D. Conditions and Covenants

As this project paper amendment continues activities for which all appropriate conditions and covenants have been considered satisfied, only one condition precedent is necessary. Prior to disbursement of any funding for procurement of plumbing, electrical or other special fixtures for space occupied by the Remote Sensing Department to be built by the Center in Nairobi, the host organization must provide evidence, satisfactory to AID, that a qualified contractor has been contracted for and that sufficient means are available to construct a facility appropriate for the activities of the Remote Sensing Department.

PROGRAM GOAL	MEASURES OF GOAL ACHIEVEMENT	MEANS OF VERIFICATION	ASSUMPTIONS FOR ACHIEVING GOAL TARGETS
<p>To assist and improve agricultural and natural resource management and exploration in developing countries.</p> <p>Utilization of remote sensing data will assist government planners and decision makers in promoting land and water resource development for the rural and urban poor.</p>	<p>The lives of the rural and urban poor are improved by the development of their country's natural resources.</p>	<p>Surveys</p>	<p>Improved natural resource data will contribute to improved agricultural and natural resource management.</p> <p>Improved agricultural and natural resource management and exploration will improve the lives of the rural and urban poor.</p>

107

PROJECT PURPOSE	END OF PROJECT STATUS	MEANS OF VERIFICATION	ASSUMPTIONS FOR ACHIEVING PURPOSE
<p>To assist participating countries in the adaptation of new procedures and techniques for the utilization of remote sensing data by providing and by undertaking project support activities in the client states.</p>	<p>15 participating countries and all AID missions in East and Southern Africa have been introduced to and some are utilizing remote sensing data.</p> <p>Countries and missions are knowledgeable in the sources, applications, and benefits of remote sensing data and the assistance available from the Facility.</p> <p>Countries and missions beginning to conduct their own resource investigations.</p>	<p>AID and Facility records.</p>	<p>Utilization of remote sensing technology will provide improved agricultural and natural resource data.</p> <p>Participating countries and AID missions have need for services and products available from Facility.</p>

14

OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	ASSUMPTIONS FOR ACHIEVING OUTPUTS
1) Operational Regional Remote Sensing Facility.	1) Facility providing user assistance to participating countries and project design and monitoring assistance to AID missions.	1) Facility records.	1) Participating countries and AID missions request Facility Assistance.
2) Seminars, short-courses, and on-the-job training are conducted at Facility.	2) 18-24 persons/year per participating country trained through 2-3 weeks course in imagery visual analysis.  6-8 persons/year for all participating countries receive on-the-job training for a period of up to 6 months.	2) Facility records.	2) Participating countries are able to release personnel for seminars and training.
3) Equipping of remote sensing analysis laboratory and photo laboratory.	3) Interpretation and analysis of imagery and production of color enlargements.  1 to 10 specially processed satellite images per participating country for first year with subsequent images to follow as per demand.	3) Facility records, library and on-site visit.	3) Continued demand for laboratory results from participating countries.
4) Distribution of remote sensing data products to participating countries.	4) Imagery, enlargements, and interpretations sent to participating countries.  1 to 10 specially processed images per participating country for first year with subsequent images to follow as per demand.	4) Facility records.	4) "do"
5) Trained indigenous personnel for key Facility positions.	5) Key posts of Facility staffed by 4 persons from participating countries.	5) Facility records.	5) Personnel for advanced training are located and participating training is successful.
6) Functioning library.	6) Facility for storage and retrieval of remote sensing data and image review capabilities for selection of imagery.	6) On-site visit.	3)

INPUTS	IMPLEMENTATION TARGET (TYPE & QUANTITY)	MEANS OF VERIFICATION	ASSUMPTIONS FOR PROVIDING INPUTS
ID: 1) Short and long-term technical assistance.	1) Three contract-hire specialists: 1-Program Manager (Geographer) 1-Photographic Services Manager (Geographer) 1-Image Analysis Specialist (Ecologist) 24-Short-term consultancies of 2-3 weeks duration.	1) Contract-hire personnel already at project site.  AID and Facility records.	1) Contract-hire personnel will remain during the life of the project.
2) Commodities	2) Equipment for remote sensing analysis laboratory and photo laboratory. 1 project vehicle	2) Equipment received by Facility or on order. Project vehicle already at project site.  AID and Facility records.	2) Facility has capacity to utilize additional equipment.
3) Long-term participant training.	3) 200 person-months primarily U.S. training	3) AID and Facility records.	3) Personnel are available for training.
4) Landsat Imagery.	4) Aircraft and satellite imagery from the EROS Data Center, Sioux Falls, South Dakota.	4) Facility and library records.	4) Continued receipt of imagery from EROS Data Center.
5) Other Costs.	5) Operating expenses.	5) AID and Facility records.	
<u>OTHER DONORS:</u>			
1) Host organization (Center) provided facilities.	1) Building with area for offices, laboratories, and library  Administrative and accounting assistance.  Building overhead.	1) Building and personnel assistance is already being provided.  Center and Facility records.	1) Host organization will continue to provide present building and staff or will construct new building by 1983
2) Participating countries financial and personnel assistance.	2) Salary support for trainees and administrative staff.	2) Personnel assistance is already being provided. <u>Facility records.</u>	2) Financial and personnel assistance from participating countries will continue.

SDC TENTATIVE COST ESTIMATES FOR CONTRACT EXTENSION

MARCH 1983-JUNE 1984

1. <u>Salaries:</u> (Assuming continuity of present staff.)	
Field staff 68 weeks @ \$1,869.40 per week	134,597
Domestic staff 4 weeks @ \$720 per week	2,880
D.B.A. Insurance 4.64% x salaries (127,119)	6,245
2. <u>Overhead</u>	
Field staff @ 70.2%	94,487
Domestic staff @ 272.9%	7,860
3. <u>Allowances/Travel</u>	
1-1/2 yrs. schooling: 4 children at \$3,950 p.a.	23,700
Estimated repatriation cost increases 15% for one additional year	2,223
Home leave Falconer plus 3 dependents plus freight allowance (estimated)	14,000
Additional Storage costs (estimated)	4,200
4. <u>Consultants</u>	
Per diem for 60 days consultant (estimate)	4,200
4 return trips by consultants @ \$2,800 e.a.	11,200
Fees for consultants - 60 days at \$160	9,600
Estimated Total Costs plus	315,192
G&A 19%	59,886
Fixed Fee 8.5%	31,882
Estimated Total	406,960

27

## memorandum

DATE: May 25, 1932

REPLY TO  
ATTN OF:Pushkar A. Brahmabhatt, Engineer *P. Brahmabhatt*

SUBJECT:

Engineering review of office space for Remote Sensing Facility Project

TO:

Robert G. Adams, Acting Chief Engineer, REDSO/EA

Problem: To determine AID share of the cost towards the construction of new facilities for Regional Center for Services in Surveying and Mapping.

Observations:

The architectural drawings and Bills of Quantities have been prepared by the local architectural firm (Architects - Engineers Collaborative (K)) for the proposed construction of a new Center. This consists of four single story blocks. Area to be occupied by the REGIONAL REMOTE SENSING FACILITY (RRSF) have been shown below:

Table 1

<u>Building</u>	<u>Total Area</u>	<u>Approx. Area to be occupied by RRSF</u>
Block A	480.2 sq. mt.	0
Block B	480.2 sq. mt.	80%
Block C	480.2 sq. mt.	40%
Block D	542.6 sq. mt.	50%

Table 2

<u>Description of Facility</u>	<u>Area in Sq. mt. to be occupied by RRSF</u>	<u>Purpose</u>
Block B	384 Sq. mt.	Instrument room, office, library, classroom.
Block C	192 Sq. mt.	Drawing office, storage Xerox facilities.
Block D	271.3	Photo Lab, Dark rooms, offices, store.
<b>Total</b>	<b>847.3 Sq. mt.</b>	



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

*28*

AID is considering financing part of the construction in the floorspace area to be occupied by RRSF. This part construction will cover plumbing/drainage, electrical works and AID condition in mechanical works.

In the Bills of Quantity, a Provisional Cost sum has been allotted for each of the above items as follows:

Table 3

	<u>Plumbing/drainage installation in Kshs.</u>	<u>Air Conditioning Mech/Ventilation</u>	<u>Electrical Works</u>
Block B	115,000	132,000	230,000
Block C	115,000	132,000	230,000
Block D	115,000	132,000	230,000

RRSF allocation based on table 2 will amount per block as follows:

Table 4

	<u>Total in Bills of Quantity Kshs.</u>	<u>Proportion for RRSF in Kshs.</u>
Block B	477,000	381,600
Block C	477,000	190,800
Block D	477,000	238,500
<b>Total</b>	<b>1,431,000</b>	<b>810,900</b>

If added for Builder's work and profit (10%) AID contribution for RRSF will amount to

	Kshs. 810,900
+	81,090
	<hr/>
	891,990
or	892,000 (Kshs.)

or U.S. \$84,952 (U.S. \$) 1 US \$10.5 K.shs.

In a meeting with Mr. Conitz on May 25, 1982, Mr. Conitz informed me:

1. Air conditioning is not required for Block B except in the instrumentation Room.
2. Some of the laboratory items e.g. sinks, traps and some plumbing and electrical wiring, and benches etc. in the present laboratory can be re-used.
3. All partitioning in the present offices are removable and can be reused in the new offices.

19

4. The architect was given all the details of the equipment to be installed in the new offices.

Comments:

1. The Provisional sum is not an accurate cost figure to make a satisfactory 611(a) determination.
2. The architect has provided the same PC sum to each of three categories in these blocks, the plumbing and electrical cost in block D for laboratory should be considerably high compared to office block.
3. There are no detailed drawings for equipment layout, plumbing layout, mechanical/AC layout and electrical layout. (Some of the very sensitive equipment may require "interference free" lines for laboratory equipment, which will cost dearly).
4. The architect has no item for "hook'up" of the present equipment in the new facilities and its commissioning.
5. No drawings for built-in 'moveable' furniture in the laboratory e.g. cupboards, benches etc.
6. To permit REDSO engineers to make 611(a) determination (If the required AID contribution exceeds \$100,000), the architect must assess the following:
  - a) The equipment, furniture, plumbing, partitioning etc. in the present building and their re use in the new building and provide a cost figure in savings.
  - b) Provide the detailed plans for electrical plumbing and equipment layout and if necessary invite tender for sub contractors on this items to determine firm reasonable costs.

CM UNCLASSIFIED

OFFICIAL FILE NAIROBI 14920

REDSO FILE

VZCZCNAI \*  
RR RUEHC  
LE RUFHNR #4920 175 \*\*  
ZNR UUUUU ZZE  
R 240527Z JUN 82  
FM AMEMBASSY NAIROBI  
TO SECSTATE WASHDC 3425  
BT  
UNCLAS NAIROBI 14920

CLASS: UNCLASSIFIED  
CHRG: AID 06/23/92  
APPRV: REDSO:LEAUSMAN  
DRFTD: REDSO:FBRANMERAT  
0  
CLEAR: 1.RADAMS  
2.JSMITH  
DISTR: ECOM REDSO-S RF  
CHRON

AIDAC

FOR AFR/RA - JOHN ROSE

F.O. 12265 N/A  
SUBJECT: CONSTRUCTION OF NEW OFFICE BUILDING - REMOTE  
SENSING PROJECT NO. 698-01414

ARCHITECT HAS SUBMITTED ITEMIZED, QUANTIFIED ESTIMATE OF COSTS FOR PLUMBING, MECHANICAL, ELECTRICAL AND AIR CONDITIONING FOR ENTIRE OFFICE BLOCK. THIS REPLACES PREVIOUS APPROACH OF PROVISIONAL SUM COSTING. THE TOTAL COSTS OF THESE SERVICES IS ESTIMATED AT KSHS.1,636,027. THE REMOTE SENSING PROJECT WILL OCCUPY SOME 50 PER CENT OF TOTAL SPACE. ON THIS BASIS, IT CAN BE ASSUMED THAT AID SHARE OF COSTS FOR ABOVE SERVICES WILL ROUGHLY AMOUNT TO SHS.843,027 OR US \$79,000. REDSO ENGINEERING HAS REVIEWED COST ESTIMATES AND BELIEVE THAT THEY REFLECT PREVAILING MARKET PRICES. PARTITIONING COST IS NOT PRICED. HOWEVER, TOTAL AID CONSTRUCTION SHOULD NOT EXCEED \$100,000. THUS 611(A) DETERMINATION NOT NEEDED. FYI LOWEST TENDER PRICE FOR CONSTRUCTION IS KSHS.9.7 MILLION FOR ENTIRE OFFICE BLOCK INCLUDING ABOVE SERVICES END FYI. HARRCP

BT  
#4920

NNNN  
CM

UNCLASSIFIED

NAIROBI 14920

7

31

REGIONAL REMOTE SENSING FACILITY, NAIROBI, KENYA, SHORT COURSE PARTICIPATION  
 BY DISCIPLINE AND COUNTRY OF ORIGIN  
 MARCH, 1975 - APRIL 1982  
 (NUMBER OF PARTICIPANTS)

	Agriculture /Land Use a/	Forestry /Range	Geology	Hydrology	Cartography	Transport Engineering	Teaching with Remote Sensing Data	Nat. Resources Extended Course	Totals
Botswana	20	1			1		1		23
Burundi	1				1				2
Ethiopia	2		1	1	2	2			8
Kenya	39	11	5	7	14	4	6	19	86
Lesotho	1			3					4
Liberia						2			2
Malawi						2			2
Mozambique				2	2				4
Rwanda		1							1
Somalia		1							1
Sudan	4	3	1	2	6		5	1	21
Swaziland		1		1	6				8
Tanzania	14	3	1	3	9	5	17	6	52
Tunisia			1						1
Uganda	2	1			4	3	6		16
Zambia					5				5
Zimbabwe	5					1			6
	88	22	11	17	50	19	35	26	268

TRAINING FOLLOW-UP

Of the 20 respondents to our questionnaire 11 indicated that they have used Landsat data since taking our short course two indicated that they intend to use it and seven indicate no use of Landsat data since taking the short course. The users have an interesting set of applications, as follows:

Botswana: Landsat data used by the Ministry of Agriculture for mapping vegetation; rangeland fire monitoring; seasonal overgrazing.

Burundi: Landsat data used by the Environment Agency for soil survey and land evaluation.

Kenya: Two participants have used Landsat data in further studies. The Ministry of Agriculture has used Landsat data for studying river course changes in arid zones where flood protection is required for the development of irrigation projects. The Ministry of Lands and Settlement has used the data for experimental mapping for development and the Ministry of Water Development has used data detecting flooding and drainage patterns in poorly mapped areas of Kenya.

Lesotho: The Government Hydromet Services have used data for mapping soils for a pilot project in soil conservation.

Uganda: Makerere University is using data in teaching and in mapping swamp areas for agricultural development.

Zambia: The Survey of Zambia is using Landsat data for mapping large areas at 1:100,000 scale and for identifying land use patterns. One of the respondents indicated that he is also providing assistance to Zambia government users of remote sensing.

In addition our orders show a number of users in the region who purchase data from us for many projects. We have just completed orders for the Sudan and Uganda to be used in an assessment of forest cover. Botswana has an order for enlargements to be used in a major soils mapping activity. Government contractors and foreign aid supported activities are making use of remote sensing data in mapping rangeland, selecting route corridors for communications (roads, railways) or mapping habitat for wildlife studies. In general the data are being used as a major information base for natural resources mapping work and as a map substitute in areas where topographic mapping is either in need of revision or where the conventional map does not show the required features.

33

### TRAINING SCHEDULE

Illustrative schedule of training courses through June 1984.

Our short course and extended training program may include the following.

Jan/February 1983. A ten day energy/environment applications of remote sensing for AID staff from the region plus on concerned government official from each country for a policy/applications session.

February 1983. The opening session of a six month energy/environment project course for technical officers from the region. This would be in the extended course format and would conclude in July/August.

March/April 1983. The opening session of an extended course on Remote sensing and cartography. This course would conclude in October 1983.

July/August 1983. Energy/Environment extended course concludes.

August/September 1983. The opening session of an extended course on Agriculture and Rangeland. This course would conclude in February 1984.

October 1983. Remote sensing mapping and cartography course concludes.

November 1983. Forestry and fuelwood extended training course begins. This will conclude in March/April 1984.

February 1984. Agriculture and Rangeland course concludes.

April 1984. Forestry and fuelwood course concludes.

34

541

REMOTE SENSING - USER CONTACTS

Type/Month	Sept. '81	Oct. '81	Nov. '81	Dec. '81	Jan. '82	Feb. '82	Mar. '82	Total
I. Photolab								
Number of items								
Division		767	78	347	224	37	274	**
Center		39	-	-	-	-	-	
Users		73	64	61	N/A	24	31	**
Value of items in K/Sh.s.		13281	7536	N/A	70930	38781	2510	146337*
II. Browse								
Number of clients	12	35	36	18	27	29	50	207

\*Total represents April 1981-Mar. 82 - monthly breakdown not available.

\*\*Number of items has no direct relation to value as single complex item produced may far exceed value of large number ordinary prints.

Sample Users

University of Nairobi

East Africa Power and Lighting

Kenya Soil Service

Eccsystems

ILCA

Voice of Kenya

NORAD

UNDP/Swaziland

Environmental Training and Management for Africa

UNEP

Cities Service Kenya

University of Zimbabwe

World Bank

Kenya Ministry of Water

Ministry of Natural Resources Zambia

Makerere University

Ministry of Energy and Natural Resources Kenya

UNICEF

Kenyatta University

Desert Locust Control Organization

36

French Technical Aid

Alexander Gibb

Swaziland Water Works

Correx Zimbabwe

Kenya Rangeland and Ecological Monitoring Unit

ECA

Norwegian Church Aid

Somali National University

Habitat

Norconsult

American Medical Research Foundation

University of Dar es Salaam

Finland Soil and Water Department - Mozambique

International Center for Research in Agro-Forestry

Zambia Ministry of Lands and Natural Resources

Survey of Kenya

OICI

FAO

Regional Housing and Urban Development Office

Mapping Forest Resources/Sudan

Kenya Ministry of Energy

Canadian Research and Development Institute

Tana River Development Authority

Survey/Swaziland

I. Responses to AID/W Guidance Cable  
State 095262

1. AFR/RA has reviewed ref A and last two quarterly reports and would like further clarification on the following items prior to completion of PP amendment.

A. AID Financing - We would like an estimate of future AID funding requirements broken down by year in major categories; technical assistance, commodities (any major equipment) operational expenses, training, ecc. para 6 ref A is not clear.

See Financial Analysis and Plan of  
Project Paper amendment.

B. African Support. We would appreciate an update on African Financial support including member state contributions, income from training services and the sale of photo products.

Does the amount and nature of this support show a trend over the past few years? We understand RSA station giving free data to certain countries.

Will this negatively affect the future sale of photo products? We would like an update on any progress made at Kinshasa in cementing relationship of the Governing Council/Regional Management Committee with the ARSC. Who will be the grantee for the Project? The Regional Management committee or the Government of Kenya and what is rationale for the selection?

For current client state contributions see  
Financial Section of Project Paper Amendment.  
For relationship with ARSC see Annex 6 of  
Project Paper Amendment.

2. AFR/RA would like to reiterate certain points we consider important and suggest that these be addressed in design and reflected in the PP amendment:

A. A brief statement as to the consequence of terminating the project by the February 1983 PACD.

See Section II.A; Project Strategy for consequences of terminating project in February 1983.

B. The reasons for the delays in project implementation, recruiting, procurement, hiring of counterparts etc. we believe the June 16, 1981 response to the IG survey report provides a good explanation.

Believe G report and latest PES cover reasons for delay. Appropriate lessons learned are incorporated into revised implementation schedule, see Section IV.B.

C. Design should clearly demonstrate how the activities currently being funded by AID will be fully institutionalized by end of project at which time further AID assistance for these activities will no longer be needed. African inputs needed to achieve institutionalization particularly staffing and other support commitments, and means of financing these, should be clearly specified. We should operate on the assumption that proposed extension will constitute last AID contributions to the project.

See project description Section II.

D. Training Courses. Please include information/analyses regarding training given to date and changes being made in response to the recent evaluation.

See Training Schedule Annex 3.

E. Participant Training. Ref C asked if counterpart training could be accelerated. We would like to know what kind of training is contemplated. We should have this prior to completion of PP amendment in order to explore possibilities for U.S. training.

See proposed participant training Section II.B.

F. The PP amendment should contain a section on the organizational structures for managing and implementing the project. This should include information concerning numbers and types of personnel in the various sections.

See Discussion on Host Institutions in Section II.B. as well as staffing for division in Annex 6.

G. Other Donors. The amendment should contain a section other donor support, present and future.

See project description Section II.B.

H. Ground Station. We agree with REDSO that planning of extension can not await a decision on a ground station. However, believe possible impact of a ground station on project purpose and inputs should be examined. For example, we should not make additional purchases for photo lab to accommodate a ground station but should consider compatibility of any planned purchases with the operation of a ground station should it be constructed.

Ground station, if constructed, will come well after proposed new PACD of June 1984. Proposed modest equipment inputs are appropriate whether ground station constructed or not.

## II. Guidance cable State 113620

Para. 2(1) Rationale for 15 month extension rather than a three-year extension as recommended in the evaluation.

Rationale for 15 month extension provided in project description Section II.A. Project Strategy.

Para. 2(2) Examples of how remote sensing is being used by those trained at the Facility.

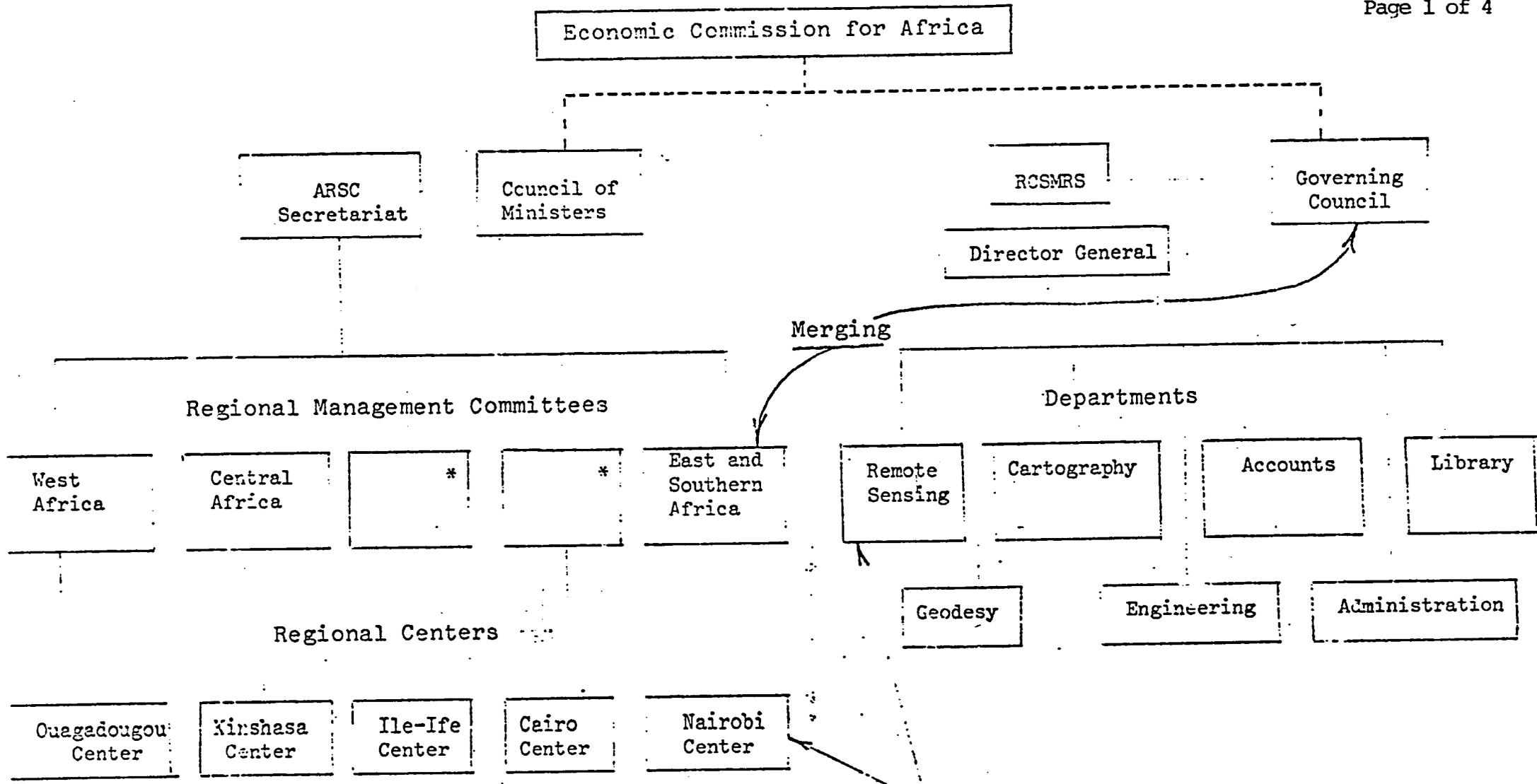
For example of use of remote sensing training see Annex 5.

Para. 2(3) Likely impact of higher resolution satellites on remote sensing use in East Africa.

Impact of higher resolution satellites such as Landsat-D is limited. In reality Landsat-D data will only be available via the South African. The RSA station will not be able to receive the high resolution Thematic Mapper data from Landsat.

D. It will receive Landsat-D USS data in approximately the same format as is presently being receiving station and the Italian receiving station. The area of Africa covered by the Italian station is outside this project region. The South African station gathers data from the Tanzania/Kenyan border southwards. Because Landsat-D has no tape-recorder on board no data will be collected for Kenya until a station becomes operational here. Political considerations make it unlikely that there will be extensive use of the Landsat-D data within the countries covered by the RSA station. The impact will, for these reasons be small. The potential to use the Landsat-D data from RSA to monitor food production and other changes in the natural environment is great. With the new satellite and the data flow possible from RSA many valuable studies could be done of the region south of Kenya.

41



\* Management Committees for the Ile-Ife and Cairo Centers have not yet been formed. The Ile-Ife center is governed by a Governing Council similar to that of the Nairobi Center.

Same organization. A satellite receiving and processing station may eventually become part of this organization.

PROGRAMME BUDGET

PROGRAMME : 03  
PROGRAMME TITLE : DEVELOPMENT OF REGIONAL REMOTE SENSING FACILITY - US \$  
(Counterpart Contribution) 03/01

	W/M 1981/82	1981/82 Approved Budget	Increase/ (Decrease) 1982/1983 Budget	1982/83 W/M	RESOURCES 1982/1983		Total 1982/1983
					Regular Budget	Extra Budgetary	
<u>03/01/1 STAFF</u>							
(a) <u>Professional (W/M)</u>							
(i) Counterpart Director	6	13,574	(13,574)	12	-	27,170	27,170
(ii) Deputy Director (Counterpart)	-	-	-	6	-	11,330	11,330
(iii) Browse Analyst	12	19,310	(19,310)	12	-	20,340	20,340
(iv) Application Specialist I	12	19,310	(19,310)	12	-	22,100	22,100
(v) Photolab Scientist Trainees	12	19,310	(19,310)	12	-	20,640	20,640
* User Service Co-ordinator	12	19,310	(19,310)	-	-	-	-
(vi) Application Specialist II	-	-	-	12	-	19,310	19,310
vii French expert						**	
(b) <u>Classes (W/M)</u>							
(i) Administrative Assistant	12	14,625	105	12	14,730	-	14,730
(c) <u>General Services (W/M)</u>							
(i) Secretary	12	10,632	1,328	12	11,960	-	11,960
(ii) Accounts Clerk	12	6,180	-	12	6,180	-	6,180
(iii) Lab Assistants	24	16,000	-	24	16,000	-	16,000
(iv) Browse Clerk	12	4,710	1,250	12	5,960	-	5,960
(v) Driver	12	4,710	150	12	4,860	-	4,860
Component Total	138	147,671	(87,981)	150	59,690	120,890	180,580
03/01/2 Travel - O.S.						10,000	10,000
03/01/3 General Operating Expenses						120,500	120,500
03/01/4 Training						115,000	115,000
03/01/5 Equipment						10,000	10,000
Grand Total		147,671	(87,981)		59,690	376,390	436,030

\* Re-designated "Application Specialist II"

(\*\*) Salary payable to the Expert directly by French Government

THE AFRICAN REMOTE SENSING COUNCIL

The African Remote Sensing Council (ARSC) was formed in 1977 as one of a number of regional organizations sponsored by the United Nations Economic Commission for Africa (UNECA). The structure was based on recommendations of a team of experts (in which AID participated) which had earlier visited existing and potential sites of remote sensing activities in Africa. The function of the Council <sup>is</sup> ~~was~~ to coordinate remote sensing activities throughout Africa in order to avoid gaps and duplication in the provision of training and services.

While the main structure of the Council is reasonably well established, the problems associated with the development of its sub units are far from resolved. It will be some time before it is possible to illustrate in diagrammatic form the working relationships of all facets of the Council and its subsidiary organs.

Basically, the Council is an administrative body made up of a Secretary General and eventually a small staff of advisors with headquarters in Bamako. The Council is Governed by a Council of Ministers made up of representatives from the twenty~~one~~ member countries. The Council of Ministers meets annually.

The operational branches of the Council consist of five regional centers located in Nairobi, Kinshasa, Ouagadougou, Ile-Ife and Cairo. The function of these centers is to provide training, technical assistance and project support within their respective regions. When fully implemented, the plan of the Council is to have a governing body for each center known as a regional management committee made up of representatives from the countries of the respective regions which are members of the ARSC.

44

While the plan for the organization of the regional management committees appears simple and straightforward there are many problems to be resolved before the plan becomes fully operational. Taking Nairobi as an example, remote sensing is now a department of the Regional Centre for Surveying, Mapping and Remote Sensing. The Mapping Centre was created in 1975 and had an established group of member countries and a Governing Council before the ARSC came into being. Within the UNECA hierarchy of regional organizations it is at the same level as the ARSC. Its AID sponsored remote sensing divisions also predates the ARSC.

In order to forestall any potential conflict between the Mapping Centre and the ARSC over remote sensing operations, it has been agreed that the Centre's Governing Council and the East African Regional Management Committee be merged. This decision was confirmed by the Centre's 13th Governing Council meeting which took place in April 1982. It was also acknowledged by a Regional Management Committee meeting which took place at the same time. Steps are now underway to create an arrangement whereby countries which have joined the ARSC can automatically become members of the Mapping Centre and vice-versa.



ADDIS ABABA - ETHIOPIA

Cable: ECA, Addis Ababa  
P. O. Box 3001  
Telephone 45 70 00 - 44 72 00

Date 12 April 1982  
Reference



Dear Sir,

It is with great pleasure that I enclose herewith a resolution adopted on 8th April 1982, by the thirteenth Session of the Governing Council of the Regional Centre for Surveying, Mapping and Remote Sensing. This resolution expresses the gratitude of the Governing Council to the United States Agency for International Development for the substantial support it has provided to the Regional Centre in the establishment and development of its Remote Sensing Facility. This resolution also formally asks the United States Agency for International Development to continue its support to the Regional Centre in Remote Sensing until such time as the use of space technology is firmly established as a tool for assessing and monitoring the natural resources of Africa.

The Governing Council would like to state that excellent progress has been made in the development of the Remote Sensing Facility. It would also like to draw attention to the importance of remote sensing in the economic and social development of African countries. The rational development and exploitation of Africa's resources offers the best hope these countries have of achieving economic independence and in order that these resources be developed and exploited rationally, it is essential that African governments themselves possess the tools for identifying, measuring, assessing and

United States of America  
Agency for International Development  
Department of State, Washington, D.C. 20523  
c/o East Africa Regional Economic Development  
Services Office  
P.O. Box ~~30592~~ 30592  
Nairobi, Kenya

REDSO ACTION C	
Action taken	.....
No action necessary	.....
Initials	.....

46



- 2 -

monitoring these resources. Because of the vastness of the continent and the remoteness of many high potential areas it is clear that only through the use of earth orbiting satellites supported by conventional techniques can this job be accomplished in a cost effective manner. Recognition must be given to the United States Government for its leadership in the development of an earth orbiting satellite programme for the benefit of mankind. Recognition must also be given to the United States Agency for its foresight in including the transfer of technology in its own development assistance programme. It is only through such programmes that this important technology can be made available to African countries.

The Governing Council wishes to assure the United States Agency for International Development that it will do all within its power to ensure that the Regional Centre continues to be an effective and viable host for the Remote Sensing Facility. The Governing Council also wishes to point out that though at the time the agreement between the Regional Centre and the USAID was concluded in 1977, there were only five member States of the Regional Centre, this membership has now increased to nine with several additional African States expected to join soon. The Regional Centre now provides not only housing for the Remote Sensing Facility but also assumed an increasingly large share of the operating costs of the Remote Sensing Facility. The Governing Council has approved the commencement of the construction of the permanent buildings of the Regional Centre. The initial phase of construction will provide over 20,000 square feet of floor space which is double what is presently available. Approximately half of this space will be devoted to remote sensing activities. The permanent buildings will not only ensure more efficient operation but will also enhance the role of the Regional Centre as a permanent infra-structural entity for the development of Africa's natural resources.

47



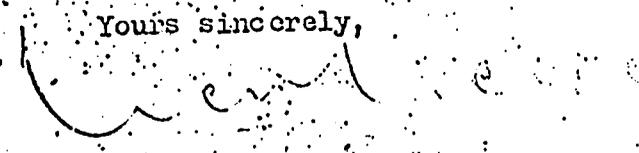
- 3 -

In order to strengthen the effectiveness of the Regional Centre with respect to remote sensing activities, the thirteenth session of the Governing Council took steps to amend the Agreement establishing the Regional Centre. The Amendment inter alia extended the scope of the activities of the Regional Centre to conclusively embrace remote sensing, to reflect this in the name of the Regional Centre and to harmonize the institutional and administrative relationship between the Regional Centre and the Eastern and Southern Africa Regional Management Committee which provides the institutional organ with respect to the Remote Sensing Facility. The amendment constitutes a major step in the establishment of an institutional framework which will embrace both remote sensing and conventional cartography and ensure even broader support from the member States of the Regional Centre.

In view of the foregoing, it is my earnest hope that the Regional Centre will continue to deserve the support of the United States Agency for International Development and that the latter will make provisions for the extension of the support which it at present gives to the Regional Centre for a further period of three years, as asked for in the enclosed resolution.

I shall be most grateful to learn of your favourable reaction to this letter at your earliest convenience.

Yours sincerely,

  
Adebayo Adedeji  
Chairman of the Governing Council of the  
Regional Centre for Surveying, Mapping  
and Remote Sensing  
Executive Secretary  
Economic Commission for Africa

48

The 13th Session of the Governing Council of the Regional Centre for Surveying, Mapping and Remote Sensing;

Aware of the substantial support provided by the United States Agency for International Development in the establishment and development of the Regional Remote Sensing Facility of the Regional Centre for Surveying, Mapping and Remote Sensing;

Noting with satisfaction that there has now been developed in the United States satellite image analysis and training facilities, high quality photo laboratory processes and a complete reference file of satellite imagery of Africa;

Noting with appreciation that the facilities referred to in the preceding paragraph have been instrumental in the training of very many Africans in the use of satellite remote sensing technology;

Recognizing that because of the importance of natural resources to the economic and social development of all African countries, and the magnitude of the problems in identifying and assessing these resources, there will be a continuing need for assistance from developed countries in training Africans in these fields;

Further recognizing the important role of the United States in the development of satellite remote sensing programmes for the benefit of mankind and the fact that the United States Government through its Agency for International Development has been instrumental in transferring related technology to developing countries;

Hereby expresses its appreciation to the United States Agency for International Development for its generous assistance in the establishment and development of the Remote Sensing Facility; and

Requests that the United States Agency for International Development continue their support for the Remote Sensing Facility for at least three years beyond February 1982, when such support is due to come to an end.

49

5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable generally to projects under the FAA and project criteria applicable to individual funding sources: Development Assistance (with a subcategory for criteria applicable only to loans); and Economic Support Funds.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;  
(b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

Standard Congressional Notification procedures will be utilized.

Yes

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be  
(a) engineering, financial or other plans necessary to carry out the assistance and  
(b) a reasonably firm estimate of the cost to the U.S. of the assistance?

Plans are completed

Firm estimates have been made (see section III.D. of project paper).

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?  
No further legislation is required
  
4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973?  
N/A
  
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?  
This is primarily a technical assistance project
  
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.  
This is a regional project involving countries throughout East and Southern Africa

51

7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.
- No  
No  
No  
No  
Yes, to the extent that data made available through the project will assist planners in a greater rationalization of resources
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
- The project will have no direct effect.
9. FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.
- Host organization governing Center of which Department is an element has budgetary resources from the member states. The 1982 budget of \$1.4 million for the Center exceeds that amount to be provided by AID. Currently the Center has agreed to fund all of counterpart salaries whereas AID funds were previously used for a portion.

52

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? No
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? No. As an amendment the project will continue to utilize the existing contractor which was competitively selected.
12. FY 1982 Appropriation Act Sec. 521. IF assistance is for the production of any commodity for export is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? N/A
13. FAA 118(c) and (d). Does the project take into account the impact on the environment and natural resources? If the project or program will significantly affect the global commons or the U.S. environment, has an environmental impact statement been prepared? If the project or program will significantly affect the environment of a foreign country, has an environmental assessment The project is specifically designed to assist countries in East and Southern Africa better utilize and protect their natural resources and environment. Information from the project will help these countries cope with destruction of tropical forests

3

been prepared? Does the project or program take into consideration the problem of the destruction of tropical forests?

14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom?

N/A

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance  
Project Criteria

- a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will
- (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions;
- (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions;
- (c) support the self-help efforts of developing countries;

The involvement of the poor will follow after the utilization of remote sensing data by governmental policy makers who are concerned with the country's agricultural and natural resources.

Activity will not directly help develop cooperatives

The developing countries' self-help efforts will be supported by the eventual

54

(d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and

The activity will ultimately assist both women and men throughout their respective countries. The project will specifically attempt to recruit and train women from the various participating countries

(e) utilize and encourage regional cooperation by developing countries?

The project's liaison activities will directly attempt to foster regional cooperation among the participating countries.

b. FAA Sec. 103, 103A, 104, 105 106. Does the project fit the criteria for the type of funds (functional account) being used?

(1) Activity will assist governmental policy makers whose management and exploration decisions have a direct effect upon increased productivity of land and water resources. Most users of Facility services are persons employed by agricultural or agricultural related agencies.

c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

This is a multi-laterally funded project. Grantee's contribution is 46% of project costs.

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

N/A

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

The project will enable highly skilled host country officials to interpret and remote sensing technology to the country's development problems.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in government processes essential to self-government.

Yes

2. Development Assistance Project Criteria (Loans only)

This is grant assistance

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.

56

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

c. ISDCA of 1981, Sec. 724 (c) and (d). If for Nicaragua, does the loan agreement require that the funds be used to the maximum extent possible for the private sector? Does the project provide for monitoring under FAA Sec. 624(g)?

3. Project Criteria Solely for Economic Support Fund

This is not funded through ESF.

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?

c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified

that such use of funds is indispensable to non-proliferation objectives?

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

58