

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

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Report Symbol U-447

1. PROJECT TITLE Central Rangelands Development Project			2. PROJECT NUMBER 649-0108	3. MISSION/AID/W OFFICE USAID/Somalia
			4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) <u>FY 83-5</u>	
			<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION	
5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	
A. First PRO-AG or Equivalent FY <u>79</u>	B. Final Obligation Expected FY <u>83</u>	C. Final Input Delivery FY <u>86</u>	A. Total \$ <u>45,244,000</u>	7. PERIOD COVERED BY EVALUATION
			B. U.S. \$ <u>14,944,000</u>	From (month/yr.) <u>1/82</u>
				To (month/yr.) <u>1/83</u>
				Date of Evaluation Review <u>5/22/83</u>

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., program, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Modify the project goal purpose to set forth distinct and achievable project objectives along the lines of the Evaluation Report.	K. Randolph USAID/S	09/30/83
2. Modify the scope of project activities to include, or expand, the following areas:	K. Randolph USAID/S	09/30/83
A. Collection and analysis of data to identify the key constraints to livestock production.	K. Wilkes CRDP/S	09/30/84
B. Collection and analysis of socio-economic data on existing livestock production systems and model grazing reserves/associations.	K. Wilkes CRDP/S	09/30/84
C. Standardize purpose and procedures for establishing district management plans, grazing associations and monitoring activities.	K. Wilkes CRDP/S	11/30/83
D. Upgrading the formal training program.	K. Randolph USAID/S	09/30/83
E. Establishing a formal research program.	F. Kinsinger CRDP/S	07/31/84
F. Strengthen the NRA institution through quarterly work sessions and in-service training sessions.	K. Wilkes CRDP/S	09/30/83
3. Revise project budget to transfer non-programmed operation and maintenance funding into line item categories to provide new or additional funding for the planned new or expanded activities.	K. Randolph USAID/S	10/15/83
4. Renegotiate/amend the Louis Berger contract	K. Randolph USAID/S	12/31/83
5. Extend PACD of Project for two years.	K. Randolph USAID/S	10/31/83

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS	10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT
<input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input checked="" type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T <input checked="" type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P	<input checked="" type="checkbox"/> Other (Specify) <u>LBII Contract</u> <input type="checkbox"/> Other (Specify) _____
	A. <input type="checkbox"/> Continue Project Without Change B. <input type="checkbox"/> Change Project Design and/or <input checked="" type="checkbox"/> Change Implementation Plan C. <input type="checkbox"/> Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles) Kenneth Randolph, USAID/Mogadishu, Project Manager <i>CR</i> Calvin Martin, REDSO/FSA, Livestock Specialist Mohamed Aklui Ayan, CRDP/NRA, Director of Range Kay Wilkes, CRDP/LBII, Chief-of-Contractor Party	12. Mission/AID/W Office Director Approval Signature <i>[Signature]</i> Typed Name Louis A. Cohen, Director Date <u>25 Sept 83</u>
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PROJECT EVALUATION SUMMARY - PART II

13. Summary

The project's intermediary progress for the first year of development activities is quite satisfactory. However, the prospects to achieve project objectives by the end of the project appear to be marginal unless immediate attention is given to improving the mechanism for coordinating the various multi-donor components and to developing a sound academic training and adaptive research program. In order to improve the coordination quarterly work sessions are recommended for:

1. the directors of the principal offices in the NRA, donor representatives and contractor representatives, to be held at the national level, and
2. the district and regional officers and contractor counterparts, to be held at the district and regional levels.

The purpose of such workshops would be to review and plan development activities. Upgrading of the formal training program by increasing the number of professional advisors and post graduate training participants would provide the base for developing a sound training and research program.

Although project implementation is still in an early state, it is recommended that data on the traditional grazing systems and livestock production be reviewed in depth, before project activities move into the planning of rangeland management systems, in order to determine what impact the relevant technology being proposed to pastoralists will probably make on the rangelands and livestock management systems. A modification of the scope of project activities appears to be necessary, in order to allow project development to place more emphasis on the collection and analysis of data on the existing management and production systems, and testing of small scale range management efforts. Such a modification, particularly in the short term, will enable the project to better appraise the needs of the pastoralists and subsequently prepare appropriate technology. Based on these modifications it is further recommended that the project goal and purpose be modified to set forth distinct and achievable project objectives.

14. Evaluation Methodology

The project paper appears to have planned an adequate level of evaluation. Mechanisms were built into the project to monitor and evaluate socio-economic and ecological impacts and for measuring project progress, through an Evaluation Unit in the Planning Division of the National Range Agency, and sponsored through the International Livestock Center for Africa. In addition to this internal mechanism for project evaluation, provisions were made to permit an external evaluation in years three and five of the project.

However, as the internal monitoring and evaluating capabilities of the Planning Division have not developed on a timely basis, there was need for an interim evaluation to measure progress. Therefore, the evaluation was conducted to measure progress, study issues for modification of project design, and improve implementation.

The evaluation was conducted by REDSO/EA, assisted by AID/S staff, March 17-31. In conducting the evaluation, the team reviewed project files, reports and the project paper, as well as held discussions with the National Range Agency and University of Somalia officials, World Bank officials and the contractor team. Field visits were made to Belet Weyn, Bulc Burti and El Dere districts to observe and discuss project activities.

15. External Factors

The three original priority districts of Galkayo, Belet Weyn and Dusa Mareb border Ethiopia and as a result of the border conflict of mid-1982, development activities were suspended for approximately two months and subsequently relocated to the districts of Hobyo, Bulo Burti and El Dere. Although the new districts are well removed from the border area and no further interruptions from the Somalia-Ethiopia war are expected, the Mission and the National Range Agency note there is a high probability that on-again off-again tribal conflicts in the area could have a delaying effect on project development. In addition, the logistical problem associated with supporting field activities in the more remote districts can also be expected to slow the rate of development.

16. Inputs

Inputs to date have generally been adequate in quality and quantity and on a timely basis, with the main exception being the formal training program. Shortfalls in the formal training program include an inadequate amount of professional services, post graduate fellowships and commodities. There have also been some shortfalls in other areas of the project, mainly in the area of short term technical assistance and training.

A. Technical Assistance

1. Long-Term

The team is complete and quality and quantity of the work being conducted by all members of the staff is satisfactory. The original project documentation called for a cooperatives advisor; however, this position has been changed to that of a socio-economist position. This change in position discipline was initiated by USAID, the contractor and the World Bank in order to provide socio-economic input into the work being undertaken to improve rangeland management systems. It is recommended that this position be extended to three years.

2. Short-Term

In addition to the long term team members, the contractor has provided two short-term range consultants in specialized areas. The consultants have provided professional advice on implementation of the CRDP in developing annual work plans, planning the research program, rangeland monitoring, grazing studies, setting up the nutritional analysis laboratory and the formal education program. Technical assistance provided by the contractor has been competent and meets the needs of the project.

However, it would appear that remaining short-term technical assistance programmed may not be adequate for future project needs. Therefore, it is recommended that project components examine their needs in reference to establishing adequate short-term inputs and backstopping.

B. Training

1. In-Country

In-country training has generally been limited to counterpart training. The contractor team members are strongly encouraged to continue the involvement of their counterpart staff in all activities and increase counterpart responsibility and leadership roles wherever possible. Staff beyond those selected as counterparts need to become more involved with project field activities.

In order to upgrade in-country training it is recommended that funds be provided for short-term training in range management and for visiting various livestock and range development projects in Africa and the United States. In addition, quarterly work sessions and in-service management training/planning sessions at the national, regional and district levels should be developed to help improve review, planning and management capabilities of the NRA institution.

2. Participants

Five candidates for B.S. degrees are currently in the United States for degrees in range management (one candidate is pursuing a degree in wildlife management). Under the present level of funding all participant training funds have been committed for the five undergraduate participants, thus additional post graduate training must be provided to insure the sustainability of the newly created Department of Range Management in the University of Somalia. An additional thirty person years of post graduate training is recommended over the remaining life of the project.

C. Commodities

Commodities have generally been adequate in quality and quantity and on a timely basis. The water development commodities are being shipped and it is expected that well drilling activities will be initiated with this equipment over the next few months.

The Mission notes that there have been some problems with the World Bank providing inputs on a timely basis, specifically housing, household furnishings and vehicles. In reference to the possibility of needing to add personnel on an "as soon as possible" basis for the formal training program, and the likelihood that the Bank could not mobilize in time to meet some of these needs it probably would be in the best interest of overall project development for AID to plan on covering the minor inputs of the Bank. The Mission also notes that there has been problems in references to the maintenance of the AID (American origin) provided vehicles due to a lack of in-country trained mechanics. Although the CRDP has, to the present, relied on other AID projects to service their vehicles, it may want to consider providing training and tools to the

CRDP vehicle maintenance center to establish the capability of maintaining the American origin vehicles and equipment.

D Additional inputs planned by AID and CRDP, along the lines of the Evaluation Report, are presented under the following Annexes.

1. Formal Training
2. Rangeland Planning and Management
3. Rangelands Investigations and Research
4. Socio-Economics
5. Water Development
6. Soil-Water Conservation
7. Revised Logical Framework
8. Revised Project Budget
9. Technical Assistance

17. Outputs

Although it is too early in the life of the project to evaluate outputs, the evaluation pointed out that prospects to achieve project objectives by the end of the project appear to be marginal unless immediate attention is given to improving the mechanism for coordinating the various multi-donor components and to developing a sound academic training and adaptive research program. In addition to modifying the scope of project activities to improve/develop these areas it is recommended that the project goals and purpose be modified, to set forth distinct and achievable project objectives.

Modified and/or new outputs planned by AID and CRDP are presented in Annex 7 under the Revised Logical Framework.

18. Purpose

The approved project purpose states: "Develop and initiate a range management program in the Central Region of the Country."

It appears that the project was designed with two implicit assumptions: first, that range management technologies exist which, if applied in Somalia, will be an improvement over current systems of management practiced by pastoralists; and second, that current management systems constrain increases in livestock productivity and are a major contributing factor in range deterioration. A further assumption is that pastoral populations should be concentrated.

As there is very little quantitative data on range conditions in Central Somalia and the research results specific to Somalia are lacking to demonstrate the feasibility of, or widespread need for either the technical or the organizational innovations underway in the project it is recommended that the scope of project activities be modified to include resources survey, and analysis to include socio-economic and livestock economics evaluation before attempting major innovations or changes.

Therefore, it is recommended the project purpose be revised to state: "To help the GSDR strengthen (a) the rangeland management scientific capacity of the National Range Agency; (b) the teaching and research capacity of the Faculty of Agriculture, University of Somalia; and (c) the effectiveness of the NRA in developing, testing and transferring relevant range management technologies to livestock producers in the central rangeland region."

The Mission and CRDP support the recommendations to revise the project purpose. The revised purpose and project status statements are presented in Annex 7 under the Revised Logical Framework.

19. Goal

The approved project goal states: "To implement a system of range management which balances animals and forage to optimize livestock production while preserving the range resources."

The contractor's strategy for data collection at the district level, as put forth in the Inception Report, will not provide an adequate basis upon which to base full scale implementation of new range management practices. The formation of reserves and herders associations in priority districts should be limited to a small number of tests or experimental efforts, where careful documentation then may provide the basis for a more substantial effort to transfer relevant technologies in the future, rather than on a full scale range management program for the entire central region.

Therefore, it is recommended the project goal be revised to state: "To assist the GSDR in improving the welfare of livestock producers through the development and adoption of relevant rangeland technologies."

The Mission and the CRDP agree that additional studies and analysis on socio-economic and livestock production conditions are needed before new rangeland management technologies are developed and implemented on a widescale basis. However, it should be noted that the CRDP has already moved to reduce the scope of establishing reserves and associations from an area wide development plan to one of three priority districts. Likewise, on the matter of placing more emphasis and study on the socio-economics of the area, the project added a full time socio-economic advisor to the staff in February, 1983. Furthermore, under the proposed amendment of the project an additional four academic advisors will be added to the project for the purpose of upgrading the formal training program on rangeland development activities. The addition of these staff will provide the project with a significant increase in research and analyses capability and, over the long run, should contribute to improved quality and quantity of rangeland development/management activities. These positions will include expertise in range management, range ecology, livestock production, sociology and plant taxonomy. It is expected that over the life of the project a minimum of four major research projects would be completed. An additional nine research projects are planned through the post graduate training of Somali students, who will be conducting the field work of their respective degree in the Central Rangelands area on subjects/problems identified by the CRDP.

Therefore, based on the fact that the CRDP does not plan, nor have the capability to implement new range management technologies/systems on a widespread basis during the short-term, it is premature to limit the proposed work of the project to a series of two model reserves/associations/management systems for each of the priority districts. Although the Mission and the CRDP agree that a few models should be established for intensive monitoring it is planned that the project should continue along the lines established by the Inception Report. It is expected that the upgraded formal training program, and subsequent research and development activities, will serve to assist the field team in designing and implementing sound and sustainable rangeland development and management activities. Therefore, the CRDP will continue to focus on establishing all of the reserves/associations in the priority districts, which appear to be a total of ten at the present, with the assumption that one or more of these reserves will be established as a model. On the other hand, the Mission and the CRDP plan to review the rate at which reserves and associations are to be formed, as well as the success of established units, on an annual basis.

The Mission and the CRDP support the overall recommendations for a revision of the project goal with the exception to the specific limit of reserves and associations on a district basis. The revised goal and project status statements are presented in Annex 7 under the Revised Logical Framework. Projected goal outputs in reference to reserve and association formation reflect realistic development activities for the three priority districts over the life of the project.

20. Beneficiaries

There is no reason to expect a change from the PP; however, end of project status statements have been amended to conform with the revised goal and purpose.

21. Unplanned Effects

Other than the interruption of field activities by the border conflict in July-August, 1982 and a subsequent relocation of field activities, there have been no unplanned effects.

The Mission and the CRDP note that recently there were a number of conflicts in the central rangelands area between different clans and/or between a clan and the GSDR military forces. These conflicts appear to be related to disputes over the use of water points and the GSDR efforts to disarm the nomads. Although these conflicts have not had adverse effects on CRDP development activities to date, there is a strong possibility that such effects could happen. The security factor for contractor and CRDP staff is a very important reason why the CRDP needs to maintain the acceptance and respect of the nomads in Central Somalia.

22. Lessons Learned

Not applicable at this stage in project development.

23. Special Comments

At this stage of project implementation, the contractor and the National Range Agency are still in the process of developing a set of relevant technologies. The range ecologists are actively exploring possible modified range-land management systems and at the same time beginning to organize formal associations with inputs from the project's socio-economist. The formal education component has only commenced class work in March 1983, and although it is too early to ascertain what the benefits of the formal training will be at the end of the project, it is reasonable to project that, with the proposed upgrading of the present formal training program and research development, forces will be set into motion for obtaining project objectives.

Annex 1

Formal Training Component Revision

I. Background

To alleviate the acute shortage of qualified staff in the NRA it was planned that a Range Management Department would be established at the Faculty of Agriculture of the National University and courses in Range Management would be offered at the Livestock, Forestry and Range Secondary School at Afgoi. Accordingly, the project was to provide four lecturers for the Faculty of Agriculture and one instructor for the secondary school for a total of twenty-one and a half person years. Forty (40) person years of fellowships were to have been provided for the training of Somali participants abroad. Actually the Project Paper provides funding for only three of the five teaching positions and only twenty-two person years of post graduate training.

II. Present Status

To date, the establishment of a Department of Botany and Range Management has been officially authorized and a ten course curriculum in Range Management has been developed and approved. However, only one U.S. professor has been placed at the Faculty of Agriculture. Thus, not only is it impossible to implement the curriculum in Range Management, it is also unlikely that the Department could be sustained after the departure of the U.S. professor at the completion of the project in 1986, for no Somalis are being trained under project in order to staff the department.

In the secondary school program, although the instructor has been recruited, only two hours of instruction, per week, have been offered to secondary students due to a severe shortage of classroom facilities. Although facilities are under construction, it is questionable that they will be available in time for a secondary program to be developed before the end of the project. In short, the prospects for achieving the purposes and objectives of the formal training component of the project are marginal at best.

III. Proposed Revision

It is proposed that, within the limits of the funding grant authorized for the project, adequate assistance be provided to the Department of Botany and Range Management to enable it to:

1. offer a sustainable ten-course curriculum leading to a B.S. level degree in Range Management, as planned originally and
2. develop and implement, in consultation and cooperation with the National Range Agency, a range research program that will, at the same time, strengthen the Department of Botany and Range Management, while addressing the urgent needs of the NRA for valid technical and socio-economic information of the range production system of Somalia, and

3. to continue the minimum level secondary training program until graduates from the first class of B.S. level in Range Management can be assigned to the program.

IV. Outputs Expected

In addition to implementing the range curriculum at the Faculty of Agriculture and establishing a research program supporting both training and development purposes, the revised Formal Training Component is expected to produce the following specific outputs over the next four years:

1. A minimum of five lecturers/researchers trained - two at the Ph.D. level and three at the M.S. level, and assigned full-time to the Department of Botany and Range Management.
2. One M.S. level botanist assigned to the National and University Herbariums and engaged in and conducting research in support of development.
3. Three M.S. level specialists in range management employed by NRA in Management and/or research positions.
4. Thirty-six Faculty of Agriculture graduates in range management.
5. Taxonomic keys on the rangeland grasses and other plants of Somalia completed and published.
6. A plant nutritional analysis laboratory established, equipped and functioning at the Faculty of Agriculture.
7. A comprehensive range research program planned and being implemented.
8. Fifteen to twenty range investigations completed or in progress, including two Ph.D. dissertations and seven M.S. thesis.
9. A range reference library established and functioning at the Faculty of Agriculture.

V. Inputs Required

Under the current project paper USAID inputs were limited to one lecture and instructor each, twenty-two person years of training abroad and minor amounts of commodities. GSDR inputs included counterparts and in-country logistical support.

Implementation of the revised formal training component would require the following inputs:

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A. USAID

1. Technical Assistance

a. The lecturer in range management currently on board at the Faculty of Agriculture would be maintained for the next three years and four additional lecturers - at the assistant professor level - would be recruited, one each in Range Livestock Production, Range Ecology, Range Economics, and Range Management.

- b. One English Instructor 3 person years
- c. One General Services Officer 3 person years
- d. Short-Term Consultants 4 person months
- e. Campus Co-ordinator 4 person months
- f. Administrative Backstopping 1.5 person years

2. Commodities

- a. Textbooks, library materials including scientific journals.
- b. Teaching and research equipment and supplies.

3. Training

a. Academic training for two Ph.D. candidates in Range Management with specialization in Livestock Production and Range Economics, and seven M.S. candidates in various range management sub-specialties.

b. Short-term training including attendance of the trainees and selected Somalia professors at professional meetings.

4. Miscellaneous

a. Travel and per diem for U.S. academic advisors of the Somali trainees who may come to Somalia to direct the final examination (theses presentation) of these trainees.

b. Travel and per diem for the U.S. professors assigned to the Range Management Department to attend final examinations (should they be held in the U.S.) and professional meetings related to rangeland production systems in Africa.

c. In-country travel and per diem for the U.S. professors.

B. GSDR

The Faculty of Agriculture will provide:

1. Teaching and research staff to complement the U.S. funded professors and research associates.

2. Adequate administrative support for the Range Department, including secretaries, clerks, drivers, etc. and in-country per diem for Somali staff (complement and trainees).

3. Classrooms, offices for the U.S. professors and research associate and laboratories for teaching and research. (It is noted that AID has agreed to assist in establishing temporary classroom and office facilities in the form of portable knock-down buildings.)

4. Adequate maintenance of the physical facilities of the Range Department as well as fuel, service and repair of the project vehicles.

5. Adequate housing for the staff funded by USAID. (It is noted that USAID will assist the project in obtaining the necessary GSDR contribution through counterpart funding.)

C. Other Donors

1. Six four-wheel drive vehicles
2. Household and office equipment and furnishings

VI. Proposed Budget (USAID)

- Technical Assistance	20 person years	\$ 680,000
- Participant Training	24.5 person years	306,000
- Commodities		157,000
- Travel and Per Diem		
U.S. Advisors (Posting, R&R, Leave, In-Country)		268,000
Somali Trainees		56,000
Professional Meetings, Final Exams		29,300
- Storage and Transport of HHE		99,000
- Miscellaneous (Visa, Passports, Tuition, Emergency Travel)		135,000
		<u>\$1,730,300</u>

Annex 2

Rangeland Planning and Management Component Revision

I. Background

It was envisioned that the rangeland management plans for the various geographic areas of the study area would be primarily developed around a survey and analysis of the forage resources in terms of plant production and condition, but taking into consideration livestock information such as grazing patterns, numbers and class of livestock. Based on the information from the study, it was planned that districts would be subdivided into reserves or management units under the management of a resident association of pastoralists or nomads.

II. Present Status

Work to date has mainly concentrated on plant classification, mapping, soil and water surveys and livestock surveys. It is only in the last four months that a socio-economic advisor was assigned to the project, for the purpose of assisting the various advisors develop plans that will balance the needs of the beneficiaries and the capabilities of the rangelands.

To date approximately 48,500 km² have been classified and mapped. Detailed range condition classification and forage production estimates have been made on 3,000 km². In reference to this survey — analysis effort, seven tentative grazing reserves/associations/management systems (RAMS) are

in the process of being developed.

The original plan was for the CRDP to proceed with a minimum amount of data input, with the assumption that as forage availability increased through range management and development activities, livestock production would also increase proportionately and the pastoralists would take advantage of the increases by marketing more livestock. However, over the first phase of development questions have been raised in reference to the soundness of developing RAMS on a large scale basis (the project area) with minimum resource surveys and analyses. Therefore, the following component redesign sets forth more distinct plans to intensify base line data collection and test the validity of the original assumptions, while monitoring the factors of livestock production from the ecological/sociological/economical stand point.

III. Proposed Redesign

The proposed redesign will deviate from the original plan by placing more emphasis on base line data collection on one or more models per priority district. Models will be monitored intensively to evaluate the systems in reference to improved livestock production, rangelands balance in reference to use, sustainability and economics. Over the short-term it is perceived that a minimum of ten RAMS will be established in the three priority districts and that a minimum of two, at the rate of one per priority district, will be used as models.

3.

The detailed monitoring plan will also track production, balance, etc. factors in control units (Non-Model RAMS) for comparative analysis. After the initial ten RAMS are established, district analysis will continue on a more general basis, but with the added inputs from the socio-economist and soon to be added research, development and monitoring inputs through the upgraded formal education component. The rate at which new RAMS will be established will to a large degree reflect the combined efforts of the several components. Although the rangeland planning and management outputs may seem to be modest in number it is expected that such outputs will serve to provide a sound rangeland planning and management program that will have a significant impact on the quality and quantity of rangeland development in the later years of the project and thereafter.

The formal training component and associated research and development capabilities will play a key role in assisting the rangeland planning and management component in designing sound and sustainable rangeland development and management activities.

IV. Outputs

- Overall improved range management in the Bulo Burti, El Dere and Hobbyo districts. (30% of the project area)
- Minimum of ten RAMS established and functioning within the three priority districts.

4.

- Minimum of two RAMS models that will compare project intervention with the traditional livestock production systems.
- NRA district staff trained and working with the RAMS
- Range condition in the RAMS beginning to show improvement from the interventions.
- Off take from model herds showing an increase.
- Counterpart training in management for three Regional Directors, thirteen district range officers and key department heads within the NRA.

V. Inputs

A. USAID

Additional inputs required from USAID will mainly be provided through the upgraded formal training component. (See Annex 1). However, it is proposed that one ecologist position be extended for seven person months in order to provide some overlap between returning participants and the expatriate staff. The redesigned component will place increased emphasis on in-country training, through short-term consultancies and outreach programs. (See Section VI for Budget.)

B. GSDR

Additional inputs from GSDR are expected to be minor and mainly related to logistical support, housing, utilities, office facilities and local salaries. It is expected that GSDR support would largely be provided through counterpart funding.

VI. Proposed Budget

- Extension of Range Ecologist Position for Seven Work Months	7 WM	@	8,937	62,559
Field Per Diem	120 Days	@	20	2,400
International Travel	4 Units	@	2,400	9,600
- Short Term Consultancies	12 WM	@	8,903	106,836
International Travel	6 Units	@	2,400	14,400
In-Country Per Diem	360 Days	@	40	14,400
International Travel Per Diem	36 Days	@	75	2,700
- Training Seminar Short Courses and Professional Meetings for Technical Staff and Counterparts				
Per Diem	225 Units	@	75	16,875
Travel	9 Units	@	2,400	21,600
- Miscellaneous Equipment, Textbooks, Training Materials and replacement of Camping - Field equipment				50,000
				<hr/> 301,370

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Annex 3

Rangelands Investigations and Research Component Revision

I. Background

The original project plan called for a single range investigator to conduct grazing trials and field investigations. The work plan included:

1. Determination of carrying capacity at four or five sites using Bements curve of forage utilization and livestock.
2. Conduct a program of range ecological studies.
3. Establish and supervise a forage analysis laboratory.
4. Prepare a comprehensive range research plan for Somalia.

II. Present Status

Basically little or no progress has been made under this component. The overall responsibility of the component was shifted from the rangeland planning and management component to the formal training component before the project was implemented. Subsequently the range investigator position was changed to add an additional range ecologist position to the planning and management component. With a very limited level of staffing in the formal training component the accomplishments to date have been limited to the development of a rough draft of a research plan and the establishment of three ecological monitoring sites.

III. Proposed Redesign

As the basic problem has been insufficient staffing; the original plan will be maintained. The principal responsibilities of implementing and conducting activities under this component will be under the upgraded formal training program. In addition to a full time staff of four expatriate lecturers who will spend twenty-five percent of their effort on range research or related topics, the formal training component will field an additional full time position that will be divided between range investigations (seventy-five percent) and lecturing (twenty-five percent) in the range department. In addition all Somali post graduate participants (nine planned) will be required to conduct their research on range problems in Somalia.

The NRA advisors under the rangeland planning and management component will play a key role in the program by identifying priority topics-areas of research, and collaborating in such efforts.

IV. Outputs

Major outputs expected are as follows:

- Prepare and implement a comprehensive range research plan for Somalia.

- Fifteen to twenty research studies completed.

- Establish research and development capabilities in the Faculty of Agriculture, University of Somalia.

Accelerated rate of reserve/association/management systems through application of technologies established under research and development program.

V. Inputs

All necessary inputs-USAID and GSDR-are programmed and budgeted under other project development components.

Annex 4

Socio-Economic Component

I. Background

In the CRDP proposal to introduce new rangeland management practices to pastoralists the traditional forage practices and overstocking in reference to ecological insecurity were seen as problematic areas. The project planned, through the World Bank financed non-formal education component, to 1) conduct a survey of pastoral communities to establish a dialogue with the nomads and to collect information on seasonal movements of livestock and grazing patterns and 2) establish a non-formal education program to encourage the participation of the nomads. The non-formal education program was to introduce the principles of rangeland reserve utilization to the nomads, recruit members for reserve associations and disseminate knowledge about the objectives of the project. This component was also to include a socio-economist to provide baseline data and analysis on the dynamics of seasonal migration in the rainy and dry seasons, traditional forage practices, water utilization practices, health problems and to identify local influential leaders.

II. Present Status

Although the non-formal component has established a dialogue with a considerable number of the nomad groups in the project area and subsequently generated interest in planned project

objectives the quality and quantity of the data and information is insufficient to support the design of sound range management programs. The activities of the non-formal component has been further hampered by the inability of the Bank to field the planned socio-economist. Recognizing the lack of data and analyses as bottleneck to the development of range management plans USAID and NRA moved to modify the cooperative advisor position to field a socio-economic position to assist the non-formal component in carrying out it's activities. The socio-economist advisor has been on board for four months and although tentative plans have been made to establish reserves and associations in seven locations, preliminary investigation, and the recent project evaluation, suggest that additional investigations and surveys are needed before widespread development activities are initiated.

III. Proposed Redesign

The purpose and objectives of the non-formal component remain the same and the socio-economic activities will build on the activities currently underway. More specifically, a broader data base will be established for identifying and establishing grazing reserves and organizing associations. Model reserves/associations/management systems will be established to compare the traditional system of management with planned intervention for the models (before and after analysis). Ecologic/sociologic/economic parameters will be monitored over time on these model reserves.

3.

A less intensive data base will be provided for activities outside the model reserves. The formal training component and related research and development activities, when established, will play a key role in such activities.

IV. Outputs

The range management and development activities will be designed and implemented based on the information and analyses provided by the socio-economic component.

V. Inputs

A. USAID

See Section VI - Proposed Budget

B. GSDR

Additional input in the form of logistical support and staff will be provided under counterpart funds.

VI. Proposed Budget

Consultancies, ILCA

Airfare & Per diem

6 trips @ 600	\$ 3,600	
Per Diem 120 Days @ 27	<u>3,240</u>	6,840

Consultancies, (Livestock & Economics)

4 Months @ 9,040	36,160	
Per Diem 120 Days @ 27	3,240	
Airfare 4 trips @ 2,400	<u>9,600</u>	49,000

4.

Counterpart Training			
3 Trips @ 2,400		\$ 7,200	
Per Diem 90 Days @ 75		<u>6,750</u>	13,950
<u>Scrambler Type Vehicle</u>			
6 @ 3,000		<u>18,000</u>	18,000
Cassette Recorders and Calculator			
Recorders 6 @ 100		600	
Calculator 1 @ 400		<u>400</u>	1,000
Camping Equipment			3,000
Camera			
35mm 1 @ 500		500	
Accessory		<u>400</u>	900
Miscellaneous Equipment			<u>2,000</u>
	TOTAL		94,690

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Annex 5

Water Development Component Revision

I. Background

The project paper calls for the establishment of twenty grazing and twelve famine reserves, each to be equipped with a borehole. It was planned that the necessary drilling equipment and other materials would be procured by the CRDP and made available to the Water Development Agency which would be responsible for establishing the boreholes and training NRA personnel for their operation and maintenance. The Water Development Agency is being strengthened through the AID-funded Groundwater Development Project (104), thus it has the capacity to carry out the planned water development activities.

II. Present Status

To date, the CRDP well drilling equipment has not been received. However, the Groundwater Project has moved one of their units into the Bulu Burti district and the drilling on one borehole has been completed. Three additional drilling sites have been identified in that district and an additional ten sites have been identified in the Hotyo district.

The stockwater advisor joined the project in June and will be initiating the development of stockwater facilities in the near future.

III. Proposed Revision

In the process of carrying out the water development survey, it has been discovered that the development of boreholes may not

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be appropriate to a large part of the project area due to remoteness of much of the area, poor road infrastructure and limited groundwater supplies. Based on these factors the project has now plans to address water development on a broader scale. For example, dug wells and surface catchments will receive emphasis and be used wherever possible. Overall it is expected that boreholes will be reduced from thirty-two to twenty — ten for reserves in the priority districts and ten for water points established outside the priority districts. On the other hand it is expected that approximately sixty new dug wells and surface catchments will be established and that some existing wells will be renovated or upgraded.

In order to carry out these new activities the project will provide technical assistance and inputs and the nomads or the villagers will provide the labor. The ecologists and the stockwater advisor will collaborate on the siting and establishment of new dug wells and surface catchments and the stockwater advisor will supervise construction. The ecologists and the soil and water conservation advisor will collaborate when renovation of existing wells are proposed as part of reserve/management system however, it is yet to be decided who will supervise these activities. Although the WDA has overall responsibilities for such activities it does not appear to have the staff or material inputs to address the

3.

problem on a meaningful scale during the life of the project.

IV. Outputs

- Ten boreholes drilled and equipped with necessary delivery systems in grazing reserves.
- Ten additional boreholes drilled and equipped in the project area.
- Borehole operation and maintenance unit established, trained and functional with the NRA.
- Three butyle lined surface water catchments installed in the reserves.
- Thirty-six concrete lined surface water catchments installed throughout the project area.
- Six existing wells improved with water point management plans in effect.
- Eighteen new dug wells installed with water point management plans in effect.

V. Inputs

A. USAID

Technical Assistance

Training

Commodities (See Budget)

B. GSDR

Additional logistical support, transport, fuel and staffing will be provided by NRA. Labor inputs may be paid by World Food Program (WFP) rations but if possible work will be done by self-help labor.

VI. Proposed Budget

Poclain, hydrologic dam shell excavator	1 @ 80,000	80,000
Tractor, front end loaders	3 @ 21,000	63,000
Portable generator and welder	1 @ 4,000	4,000
Butyle Liner	3 @ 18,000	54,000
Barbed Wire	rolls 1800 @ 42	75,600
Posts	13700 @ 4	54,800
Cement pipe and reinforcement wire		140,000
Miscellaneous hand tools and supplies		10,000
Cattle scales	2 @ 900	1,800
Roofing	Sheets 200 @ 5	1,000
6X6 Transport Trucks (Army Surplus)	1 @ 12,000	12,000
6X6 Tanker Trucks (Army Surplus)	1 @ 12,000	12,000
		<hr/>
		\$508,200

Annex 6

Soil and Water Conservation Component Revision

I. Background

The Soil and Water Conservation Component of the CRDP was designed to provide the conservation measures necessary to help correct serious erosion problems resulting from overgrazing and abandoned cultivation. Plans also called for the establishing of water harvesting and fodder production units.

As erosion problems at livestock concentration sites and abandoned cultivation areas have resulted in shifting sand dunes a considerable amount of emphasis is being placed on dune stabilization and shelter belts around village-water point locations.

II. Present Status

Plans have been developed for dune stabilization activities at twelve sites. Work is underway at ten of these sites with labor input being provided by local villagers through the World Food Program (W.F.P.) or self-help programs. The work is being supervised by the N.R.A. District staff. Tree nurseries have been established at District headquarters to provide seedlings for shelter belts and shelter belts have been established at four locations.

Water harvesting and fodder production are in various stages of development at three sites and work is in progress at one of these sites.

III. Proposed Redesign

In summary activities are well underway, and on target, for this component. However, the need for this type of work far exceeds the input planned for the project. As the soil and water advisor position was only planned for two years, that position will be extended one year. Special emphasis will be directed to the training of district staff and counterparts to initiate new activities on a project area wide basis.

Special attention will be given to conservation measures needed within the model reserve/association/management systems.

IV. Outputs

- Site specific conservation activities established at a minimum of twenty locations through out the project area.
- Water harvesting and fodder production units established at three sites (due to the geography-flat terrain-of the area it appears that these development activities will be limited).
- Established and functioning Soil and Water Conservation Unit in the NRA.
- Nine NRA staff (SWC Technicians) trained and supervising conservation activities in selected districts.

V. Inputs

A. USAID

Eleven additional person months of technical assistance is required to extend the planned soil and water conservation activities. Additional funds will be provided for counterpart

training, supplies and equipment. (See Section VI.)

B. GSDR

The GSDR will provide additional logistical support in the form of vehicles, fuel, per diem and salaries for counterparts. W.F.P. ration and/or self-help will supply the labor inputs.

VI. Proposed Budget

Soil-Water Conservation Advisor

Extension	11	PM	@	6,700	73,700
Field Per Diem	240	Days	@	20	4,800
International Air Travel	2	Units	@	2,400	4,800
Counterpart Training					
Short Courses					
Per Diem	180	Days	@	75	13,500
Travel	3	Units	@	2,400	7,200
Grass seed	1,890	kg	@	17	32,130
Paetch Pasture Pitters with					
Seeder Attachments	2		@	10,500	21,000
Gabion Baskets/Galvanized Lacing					
Wire					
1 Meter X 2 Meter X 1 Meter	700		@	48	33,600
1 Meter X 2 Meter X 0.5 Meter	100		@	34	3,400
Barbed Wire	150	rolls	@	42	6,300
Miscellaneous Equipment and Land Tools					6,000
					<hr/>
				TOTAL	206,430

Central Rangelands Development Project

Proj Title: _____

		NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS
DEVELOPMENT HYPOTHESES	If Purpose, Then Goal	<p>Program Goal The broader objective to which this project contributes:</p> <p>To assist the GOS in improving the welfare of Livestock producers through the development and adaptation of relevant rangeland technologies.</p>	<p>Measures of Goal Achievement:</p> <ol style="list-style-type: none"> 1. Improved range management on 40% of grazing lands in the Central Rangeland area. 2. Range conditions improved in three priority districts (Bulo Burti, El Dhere and Hoby). 3. Livestock exports from Central Rangelands increase by 20% by 1995 over 1980 base. 4. Three to six model reserves established in priority districts demonstrating increased livestock product through improved management techniques.
	If Purpose, Then Purpose	<p>Project Purpose:</p> <p>To help the GOS strengthen (a) the rangeland management scientific capacity of the National Range Agency; (b) the teaching and research capacity of the Faculty of Agriculture, University of Somalia; (c) the effectiveness of the NRA in developing, testing and transferring relevant range management technologies to livestock producers in the Central Rangeland Region.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status</p> <ol style="list-style-type: none"> 1. 30% of Central Rangelands area in controlled grazing reserves. 2. One-third of the herders in the area are members of grazing associations. 3. Income of herders participating show 10% increase. 4. Range quality in reserves equal to or better than non-reserve areas.
MANAGEABLE INTEREST	If Outputs, Then Outputs	<p>Outputs:</p> <ol style="list-style-type: none"> 1. Definition of range resources. 2. Definition of management program. 3. Institutional strengthening. 4. Installation of grazing reserves/associations. 5. Establishment of formal training program. 	<p>Magnitude of Outputs necessary and sufficient to achieve purpose</p> <ol style="list-style-type: none"> 1. Base line study of livestock production and vegetative factors. 2. Existence of implementation plan for range reserves. 3. NRA national, regional and district offices established in study area, with functional planning, management and extension capabilities. 4. Minimum of 10 associations formed and controlling own range. 5. Minimum of 10 range reserves created.
	If Inputs, Then Outputs	<p>Inputs Activities and Types of Resources</p> <ol style="list-style-type: none"> 1. Technical assistance. 2. Training. 3. Commodities. 4. Water Development. 	<p>Level of Effort/Expenditure for each activity</p> <ol style="list-style-type: none"> 6. 36 students graduate with B.S. 7. 9 students receive graduate degree <p>See Budget</p>

OBJECT DESIGN

MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	<p>Concerning long-term value of program/project:</p> <ol style="list-style-type: none"> 1. Marketing improvements done as part of future projects. 2. Arab markets continue strong with no restrictions on Somali livestock. 3. Herders adopt new technologies to improve management and production.
	<p>Affecting purpose-to-goal link:</p> <ol style="list-style-type: none"> 1. No excessive long-term drought occurs in the first five years 2. Range and livestock resource inventory confirms that rangelands and management systems can be improved.
	<p>Affecting output-to-purpose link:</p> <ol style="list-style-type: none"> 1. Herders continue to view range management as positive step. 2. Sufficient counterpart staff provided and trained. 3. Newly enacted range law will be enforced by NRA and associates. 4. Post graduate complete training and return to assigned positions.
	<p>Affecting input-to-output link:</p> <ol style="list-style-type: none"> 1. AID Project 649-0104 provides water boreholes. 2. Adequate technical assistance can be provided. 3. Post graduate participants complete degree and return to project. 4. Commodities provided on a timely basis.

Annex 9
 Technical Assistance
Revised Summary Table of AID Provided Technical Assistance
And Assignments

(Over the Remaining Life of the Project)

<u>Position</u>	<u>Assignment</u>			<u>Total</u>
	<u>Yr.4</u>	<u>Yr.5</u>	<u>Yr.6</u>	
A. National Range Agency				
Technical Director, Range and Environment	_____	_____	_____	3 yrs.
Range Ecologist	_____	_____	_____	3 yrs.
Range Ecologist	_____	_____	_____	3 yrs.
Taxonomist	_____	_____	_____	2.5 yrs.
Soil and Water Conservationist	_____	_____	_____	3 yrs.
Water Development	_____	_____	_____	
Range Ecologist	_____	_____	_____	1 yr.
Stockwater Advisor	_____	_____	_____	3 yrs.
Pastoral Implementation/Analysis Advisor	_____	_____	_____	2 yrs.
General Services Officer	_____	_____	_____	3 yrs.
Short-Term Consultants	-----	-----	-----	2.3 yrs.
B. Department of Botany and Range Management				
Lecturer, Range Management-Planning	_____	_____	_____	3 yrs.
Lecturer, Range Livestock Production	_____	_____	_____	3 yrs.
Lecturer, Range Economics-Sociology	_____	_____	_____	3 yrs.
Lecturer, Range Ecology-Plant Taxonomy	_____	_____	_____	3 yrs.
Lecturer, Range Management-Research	_____	_____	_____	3 yrs.
Lecturer in English	_____	_____	_____	3 yrs.

2.

General Services Officer _____ 3 yrs.

Short-Term Consultants (University Coordinator and Consultants) _____ 0.8 yrs.

Administrative Backstopping (University) _ _ _ _ _ 1.5yrs.