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GLOSSARY OF ABBREVIATIONS

AA	-	Agricultural Assistant
CP	-	Condition Precedent (to disbursement of AID grant)
DOA	-	Dept. of Agriculture (Gambia)
GOTG	-	Government of The Gambia
GRDP	-	Gambia River Development Project
MAARD	-	Ministry of Agriculture and Natural Resources
MFC	-	Mixed Farming Center
ODM	-	Ministry of Overseas Development (UK)
PASA	-	Participating Agency Service Agreement
PP	-	Project Paper
PRP	-	Project Review Paper
SCS	-	Soil Conservation Services (US)
SDP	-	Sahel Development Program
SWMU	-	Soil and Water Management Unit
USDA	-	U.S. Department of Agriculture

Personnel References

A. Composition of Project Paper Team

Mr. R. Neil Sampson, Soil Conservationist, Soil Conservation Service, USDA

Dr. Donald McCormick, Soils Scientist, Soil Conservation Service, USDA

Mr. James Hradsky, Economist, REDSO/WA

Dr. Winifred Galloway, Sociologist, Cultural Archives, Banjul

Mr. E. Morgan Gilbert, Design Officer, REDSO/WA

AID Office, Banjul

Douglas Broome, AID Officer, Banjul

Thomas O'Dell, Acting AID Officer, Banjul

B. Persons Contacted by PP Team

The members of the PP team interviewed all of the following officials and advisors and received much important information and valuable suggestions from them.

Francis M'Boge, Permanent Secretary, MANR

Rueben Thomas, Director DOA, MANR

Wally N'Dow, Director, Animal Health and Production Department, MANR

Robert McKuen, Director, Forestry Department, MANR

Malik John, Director of Hydromet, MANR

Bakary Sidibe, Director, Cultural Archives, GOTG

George Lowe, Director IBRD IRD Project

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Sampo Ceesay, Soils Officer, DOA, Yundum Station

Seni Darbo, Project Officer, DOA

N'Donde ~~Mjai~~, Training Officer, Yundum Station

R.G.B. Jones, Soil Conservation Expert, ODM London

Joe Hilliard, Director, Peace Corps, Banjul

LOGICAL FRAMEWORK
FOR
SUMMARIZING PROJECT DESIGN

Est. Project Completion Date 1988
Date of this Summary June 1977

Project Title: GAMBIA SOIL AND WATER MANAG. PRG

		NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
DEVELOPMENT HYPOTHESES	If Purpose, Then Goal	<p>Program Goal: The broader objective to which this project contributes:</p> <p>a) Halt/reverse environmental deterioration due to inadequacy of traditional agricultural/pastoral methods.</p> <p>b) Increase/stabilize production of food forage/wood/cash crops; reduce susceptibility to drought, other weather variations.</p> <p>c) Improve institutional capability of GOTG to deliver educational, technical material services to rural population.</p>	<p>a) Measures of Goal Achievement:</p> <p>1) Reduced soil compaction, surface run-off and erosion on cultivated lands.</p> <p>b) Adoption of techniques to utilize animal manures, crop residues etc., to improve soil conditions.</p> <p>c) Reduction of burning of animal manure and plant residue.</p> <p>d) Aggregate agricultural production increases or decreases less than previously anticipated under adverse conditions.</p> <p>e) Villages and farmers recognize value of the services provided and request assistance from the</p>	<p>a) Field observations by specialists.</p> <p>b) Observations of field AA's</p> <p>c) National production estimates.</p> <p>d) Requests for services received from villages and farmers.</p>	<p>Concerning long term value of program/project:</p> <p>a) Proper soil/water management is an essential foundation of overall agricultural development program and desired environmental quality.</p> <p>b) Appropriate soil/water management technology can be developed in the Gambian cultural context.</p> <p>c) Soil/water management is and will remain a high priority of GOTG.</p>
	If Purpose, Then Purpose	<p>Project Purpose:</p> <p>a) Establish a soil and water management unit within Ministry of Agriculture and National Resources.</p> <p>b) Develop technology for improved agriculture/pastoral methods consistent with Gambian abilities and resources.</p> <p>c) Train Gambian soil and water management specialists and Agricultural Assistants to functional levels of competence in developing solutions to soil and water problems.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <p>a) Unit under Gambian direction comprising 10-15 trained specialists.</p> <p>b) Soil/water technical manual printed and adopted by MANR.</p> <p>c) Appropriate soil/water management training courses in operation within MANR training program.</p> <p>d) Village planning and action process developed and documented in training aids and technical manuals.</p>	<p>a) MANR Budget.</p> <p>b) AID evaluation of unit's activities and effectiveness.</p> <p>c) Technical reviews of soil/water management by USDA-SCS.</p> <p>d) Interviews with graduates of training programs.</p>	<p>Affecting purpose-to-goal link:</p> <p>a) MANR and GOTG will provide adequate policy direction, budgetary support and coordination to enable unit to operate effectively.</p> <p>b) Soil/water management technology developed will be achievable within the financial, physical, (mechanization and cultural means of Gambian farmers.</p> <p>c) Appropriate techniques and concepts will be accepted by Gambian farmers as being in their own best interests.</p>
	If Outputs, Then Outputs	<p>Outputs:</p> <p>a) Functioning, trained soil /water management staff, both at headquarters and in field.</p> <p>b) Soil/water management manual to document technology and action process.</p> <p>c) Resource inventories, (soil, vegetative, hydrologic surveys) for selected villages as basis for soil/water management planning.</p>	<p>Magnitude of Outputs necessary and sufficient to achieve purpose.</p> <p>a) Manual printed and distributed in adequate quantity for users.</p> <p>b) 10-15 villages assisted with village planning and action process.</p> <p>c) 3-4 Administrative leaders trained.</p> <p>8-10 technical specialists trained on the job.</p> <p>8 specialists completed academic training in US.</p> <p>100-125 Agricultural Assistants trained in general concepts.</p>	<p>a) Visit cooperating villages to evaluate extent of acceptance.</p> <p>b) Feedback from Agricultural Assistants on value and utility of technical manual.</p> <p>c) Training certificate received training records, Student's evaluations of courses</p>	<p>Affecting output-to-purpose link:</p> <p>a) Technical capability for development of manual will exist in unit staff as supplemented by short-term consultants.</p> <p>b) Village planning and action process can gradually overcome the conservatism and reluctance to adopt new techniques characteristic of Gambian villagers.</p> <p>c) Agricultural Assistants will find soil/water management technology a useful and valuable addition to their</p>
	If Inputs, Then Outputs	<p>Inputs: Activities and Types of Resources</p> <p>a) Expatriate team of interdisciplinary specialists (conservation planner, soil scientist, plant ecologist).</p> <p>b) Short-term consultants.</p> <p>c) Long-term training abroad.</p> <p>d) Local training.</p> <p>e) Commodities and misc. supplies.</p> <p>f) Housing of US team.</p>	<p>Level of Effort/Expenditure for each activity.</p> <p>a) 3 US technical staff for 3 years (9 M/Y Phase I) = \$720,000; (4 M/Y Phase II)=\$360,000.</p> <p>b) 24 man/months of short-term consultants Phase I = \$180,000; 12 m/m Phase II \$102,000; 48 m/m Phase III \$180,000.</p> <p>c) Funding for 8 Gambians to be trained abroad Phase I, 4 in Phase II = \$128,000.</p> <p>d) On-site efforts of US team to produce local training in-puts.</p> <p>e) Commodities: vehicles, office and lab. equipment, household furnishings, technical library, \$71,800, total.</p> <p>f) Construction of 3 houses - \$180,000</p>	<p>a) AID Controller Records</p> <p>b) Project records and reports.</p> <p>c) GOTG/MANR Budgets/Reports</p>	<p>Affecting input-to-output link: <u>technical skills.</u></p> <p>a) MANR will recruit and assign qualified staff to SWMU.</p> <p>b) US team leader and MANR officials can select qualified candidates and arrange appropriate training program.</p> <p>c) Adequate supplies, commodities, and equipment can be scheduled, purchased and delivered on-site on a timely basis</p> <p>d) GOTG can and will provide in-puts (including personnel, maintenance and support) as shown in project description and financial plan.</p>

Attach PRP
ANNEX

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DESIGN
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TAGS:

SUBJECT: GAMBIA SOIL AND WATER MANAGEMENT UNIT
635-0002 PRP

1. ECPR APPROVED PRP ON DEC. 9. MAJOR POINT OF DISCUSSION, WHICH MUST BE REVIEWED BY PP TEAM IS RESOLUTION OF HOUSING AVAILABILITY QUESTION. OPTIONS ARE, GOTG CONSTRUCTION AS STATED IN PRP, RENTING, PREFAB HOMES, U.S. FINANCED CONSTRUCTION. ISSUES PAPER WITH PP GUIDANCE AND COMMENTS ON PRP BY INDIVIDUAL PROJECT COMMITTEE MEMBERS BEING POUNGED TO FIELD.

2. PP GUIDANCE AS FOLLOWS:

A. INCLUSION OF RANGE MANAGEMENT EXPERTISE FROM THE SOIL AND WATER MANAGEMENT UNIT (SWMU). SINCE SWMU UNIT IN THE DEPT. OF AGRICULTURE WOULD HAVE A SUBSTANTIAL ADVISORY AND SERVICE RELATIONSHIP WITH ALL FUNCTIONAL UNITS INCLUDING AGRICULTURE, ANIMAL HEALTH, FORESTRY AND FISHERIES IT WAS CONCLUDED THAT THE PP TEAM SHOULD CONSIDER THE INCLUSION OF A RANGE MANAGEMENT ADVISOR IN THE PROPOSED STAFFING.

B. OTHER DONOR COORDINATION. DISCUSSION REVEALED THAT

EXPERTS IN TRAINING AND AGRICULTURAL INFORMATION MAY BE PROVIDED BY EITHER THE IBRD OR THE BRITISH ODM. IT APPEARS THAT THESE SPECIALISTS WOULD NOT BE FORMAL MEMBERS OF THE SWMU, BUT IT WOULD BE NECESSARY TO USE THEIR EXPERTISE AND EFFORTS TO TRAIN AGRICULTURAL ASSISTANTS IN SOIL AND TO PROVIDE NECESSARY AGRICULTURAL INFORMATION AND EXTENSION. IT WAS NOTED THAT SINCE THE SUCCESS OF THE UNITS' EFFORTS APPEARED DEPENDENT UPON THESE FOREIGN EXPERTS, THE PP SHOULD EXPAND THIS SECTION, AND ASSURE, THROUGH DISCUSSIONS WITH THE ODM, APPROPRIATE PROVISIONS IN THE PROJECT AGREEMENT AND, IF NECESSARY COORDINATION WITH THE OTHER DONORS, THAT THESE FOREIGN SPECIALISTS WOULD BE AVAILABLE TO THE PROJECT. IF THEY ARE COMMITTED TO THIS PROJECT.

THERE SHOULD BE A STATEMENT ABOUT THE PROJECT'S RELATIONSHIP TO THE PROPOSED GAMBIA RIVER BASIN DEVELOPMENT PROGRAM.

C. BUDGET. THE PP TEAM SHOULD REVIEW THE BUDGET TO ASSURE THE ADEQUACY OF FUNDING FOR SHORT TERM CONSULTANTS, FOR PARTICIPANTS AND FOR CONTINGENCY. THE PP TEAM SHOULD REVIEW ALL EXPECTED GOTG CONTRIBUTIONS TO ASCERTAIN WHETHER IT IS LIKELY THAT THESE FUNDS WILL BE MADE AVAILABLE DURING PROJECT IMPLEMENTATION STAGE. THE PP SHOULD ALSO OUTLINE WHAT ONGOING FINANCIAL OBLIGATIONS WILL ACCRUE TO THE GOTG (AFTER AID WITHDRAWAL) AS A RESULT OF OUR INTERVENTION.

D. HOST COUNTRY CONTRIBUTION. INCLUSION OF A FOURTH MEMBER OF THE TEAM AND POSSIBLE INCLUSION OF CONSTRUCTION OF FOUR HOUSES WILL REDUCE THE GOTG CONTRIBUTION TO SUBSTANTIALLY LESS THAN 25 PERCENT OF THE PROJECT. EVEN THOUGH THIS PROJECT IS EXPECTED TO BE FUNDED FROM SDP AND AS IT IS ANTICIPATED THAT SDP PROJECTS WILL NOT REQUIRE 25 PERCENT CONTRIBUTION, THE PP TEAM SHOULD ATTEMPT TO MAXIMIZE GOTG CONTRIBUTION. (NOTE: A MULTILATERAL PROJECT WOULD ALSO EXEMPT THE PROJECT FROM THE COST SHARING REQUIREMENT OF SECTION 110(A). SEE PARA. B. ABOVE.)

E. QUANTIFICATION OF BENEFITS. ALTHOUGH IT IS REALIZED THAT SOIL AND WATER MANAGEMENT EFFORTS ARE BY THEIR NATURE NOT EASILY ISOLATED IN TERMS OF SPECIFIC IDENTIFIABLE BENEFITS, THE PP TEAM SHOULD ATTEMPT TO PRESENT SOME QUANTIFICATION OF THE BENEFITS WHICH WILL ACCRUE TO THE GAMBIA SHOULD THIS PROJECT BE UNDERTAKEN.

F. SOCIOLOGY. THE PP TEAM SHOULD PAY SPECIAL ATTENTION TO SOCIOLOGICAL QUESTIONS AS THEY PERTAIN TO THE ALLOCATION

OF FARMER'S FIELDS IN ORDER TO ASSURE THAT A FUNCTIONING SWMU WILL BE ABLE TO HAVE THE MAXIMUM IMPACT ON SOIL AND WATER MANAGEMENT PRACTICES AT THE VILLAGE LEVEL.

G. USE OF PEACE CORPS VOLUNTEERS. THE PP TEAM SHOULD CONSIDER THE USE OF PCV'S TO COMPLEMENT THE EFFORTS OF THE TECHNICAL EXPERTS.

H. ROLE OF U.S. CHIEF OF PARTY AS HEAD OF SWMU. THE PP TEAM SHOULD REVIEW THE PRESENT CONFIGURATION OF THE SWMU WHEREIN THE U.S. CHIEF OF PARTY IS HEAD OF THE UNIT. CONSIDERATION SHOULD BE GIVEN TO PHASING THE CHIEF OF PARTY AS ADVISOR TO THE GAMBIAN HEAD OF THE SWMU.

I. PP TEAM SHOULD ADHERE TO GUIDELINES AND REQUIREMENTS OF AID HANDBOOK 3, CHAPTER 6, TO ASSURE THAT PP SUBMITTED IS COMPLETE DOCUMENT.

3. TIMING/MAKEUP OF PP TEAM WILL BE SUBJECT OF JANUARY ABIDJAN DESIGN CONFERENCE.

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ANNEX C

TECHNICAL NOTES AND DRAWINGSSoil Sketch and Map of Sintet Village

The following soil survey sketch and soil mapping unit descriptions were developed for an area adjacent to the village. They are based on a brief and cursory transect, indicated by a dashed line on the sketch, and several spade excavations to depths of 5 to 7 inches. The sketch and descriptions are included only to illustrate the general conditions, and do not approach the accuracy or integrity of the detailed soil surveys required as a part of the required resource inventories.

The soil was so dry and hard that digging with a spade was very difficult. The spade used was about 7 inches wide with a square tip. A more effective spade would be a narrow 5" sharp-shooter with a rounded tip, but dry season digging is difficult with any tool.

Prior to going on the transect, soil conditions on the village lands were discussed with the elders at the banta ba. It was clear from these discussions that the basic soil differences identified and described were known to the farmers. They selected the points where typical soils could be observed in the field, and these points did in fact represent the soil mapping units. Also, they knew most of the use and management limitations and potentials of the soils. They seemed anxious to learn of ways to prevent erosion and maximize productivity.

Description of Soil Map Units

1 B2 Slope 2-4% (uniform), extending about 400' from lower boundary to 2 A* or 3 A1 and a ridge of soils shallow to ironstone which is not cultivated.

Ap - Dark yellowish brown sandy loam Ap 3-4 inches thick is very compact. Upper 1-2" is loose. Very dry. Lower 2" is very hard. Not tillable in dry season except with very heavy equipment.

B - Strong Brown upper B with about 30% plinthite nodules 0.5 to 2 cm in diameter. Very hard and compact. Few insect burrows. Observed to depth of 7" only.

Soil is said by villagers to be capable of ground-nuts/cereal/groundnuts or cereal/fallow rotation indefinitely. Could be farmed for 20 years after clearing forest with little reduction in yield. Erosion has definitely occurred, with 3 to 4 inches estimated loss. Villagers definitely recognize erosion problem. They also say that the soil loses water because of compaction and runoff is high.

2 A* Slope less than 1% (concave). Area extends around base of higher lying ridge flank, and receives runoff and sediment from slope above. Sediment received to date is 1 to 1½ inches (est.). (Moderately well or somewhat poorly drained).

Ap - Very dark grayish brown sandy loam Ap 5 inches thick. Very compact, hard and dry. Insect burrows and castings common. A few channels appear to be earthworms, although no castings noted. Thin light colored sand strata about 1 mm thick spaced about 0.5 cm apart, resulting from ridging probably.

A₂ - Mottled, mostly dark yellowish brown heavy sandy loam or loam. 20% dark hard concretions 0.2 to 1 cm in diameter. Very hard; dry. (A₂ observed in roadcut may be on similar soil).

This should be the most productive upland soil that we observed. Capable of various rotations and vegetable crops. Degree of compaction as it affects root penetration is uncertain. Should observe in wet season under plants.

3 A1 Level or slightly convex, (slopes 0.5 to 3%) at roughly the same elevation as 2 A area but not on concave position. Soil is moderately well drained. It has a lighter, grayer color than 2 A, and is heavier than 2 A+ soil. Short slopes of 2 to 3% into small lateral drainage ways are less than 50 feet long, but are slightly eroded. Occurs just above 4 C1 area.

Ap - Grayish brown heavy sandy loam 4 to 5 inches thick. Very hard, dry. Few insect burrows and castings.

B - Strong brown and dark yellowish brown weakly mottled loam or sandy clay loam. Very hard, dry. 10% small hard dark colored concretions.

Villagers say this soil produces better for cereals than groundnuts. It is too heavy for good groundnuts. Infiltration here is likely very slow. Soils good for many years after clearing. Runoff collects in numerous shallow drainage ways and gullying problem is severe. Gradient of drainage-ways 1 to 3%.

4 C1 - Slopes into major drainage way; 5 to 12% slopes about 200 feet long spanning relief of 10 to 15 feet. Lateral drainage ways have severe gully hazard. No evidence of sheet erosion except narrow (20 feet) strips along lateral drainageways.

5 C1 - Ridge between major drainageways with flank slopes of 5 to 10% about 150 feet long and flatter ridgetop about 300 feet wide with slopes of 2 to 5%. All slopes convex except base slope 50 feet wide adjacent to alluvial soil below. On base slope, soil is progressively heavier and more poorly drained toward alluvial soil.

Ap - Dark grayish brown loamy sand; very dry, hard but not as hard as sandy loam soils. Few insect casts and burrows. Common plant residues, more than half of which are charred.

B - Not observed.

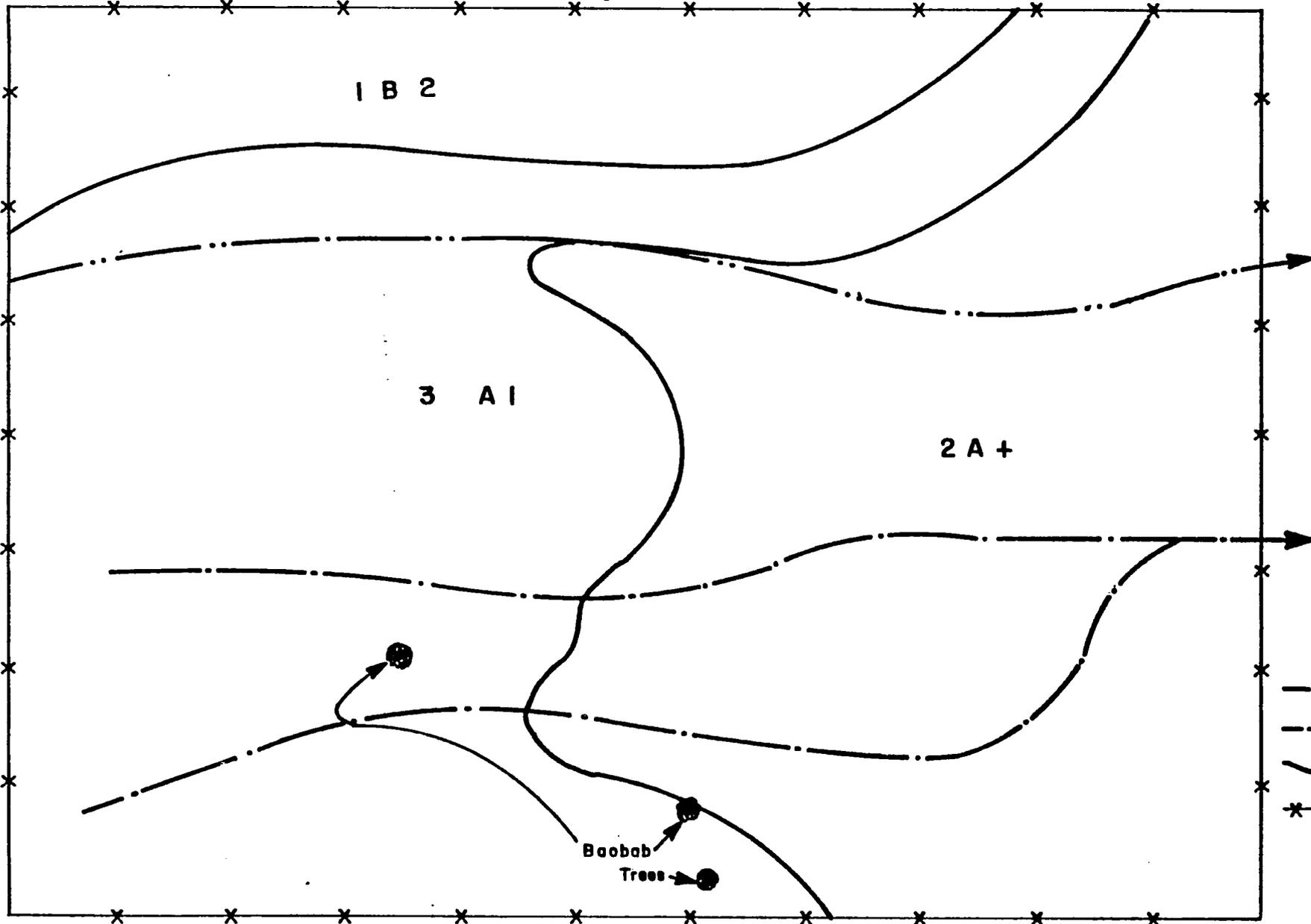
Good for groundnuts according to villagers, who say infiltration is good. They say the soil tires quickly. They say wind erosion does occur, but not much. No evidence of wind or water erosion.

6A+ - Alluvial soil used for rice. Dark gray, poorly drained. Soil said to be silty. Middle portion comprising $\frac{1}{3}$ to $\frac{1}{2}$ of width is flat. Slight slopes of 0.5 to 1% are 100 to 200 feet long at margins of area. Bunds (low dams 0.5 to 2 feet high) outline fields of 0.1 to 0.5 acre.

SOIL SURVEY SKETCH

Field North of Buildings at Kanjibat Mixed farming Center

May 1977



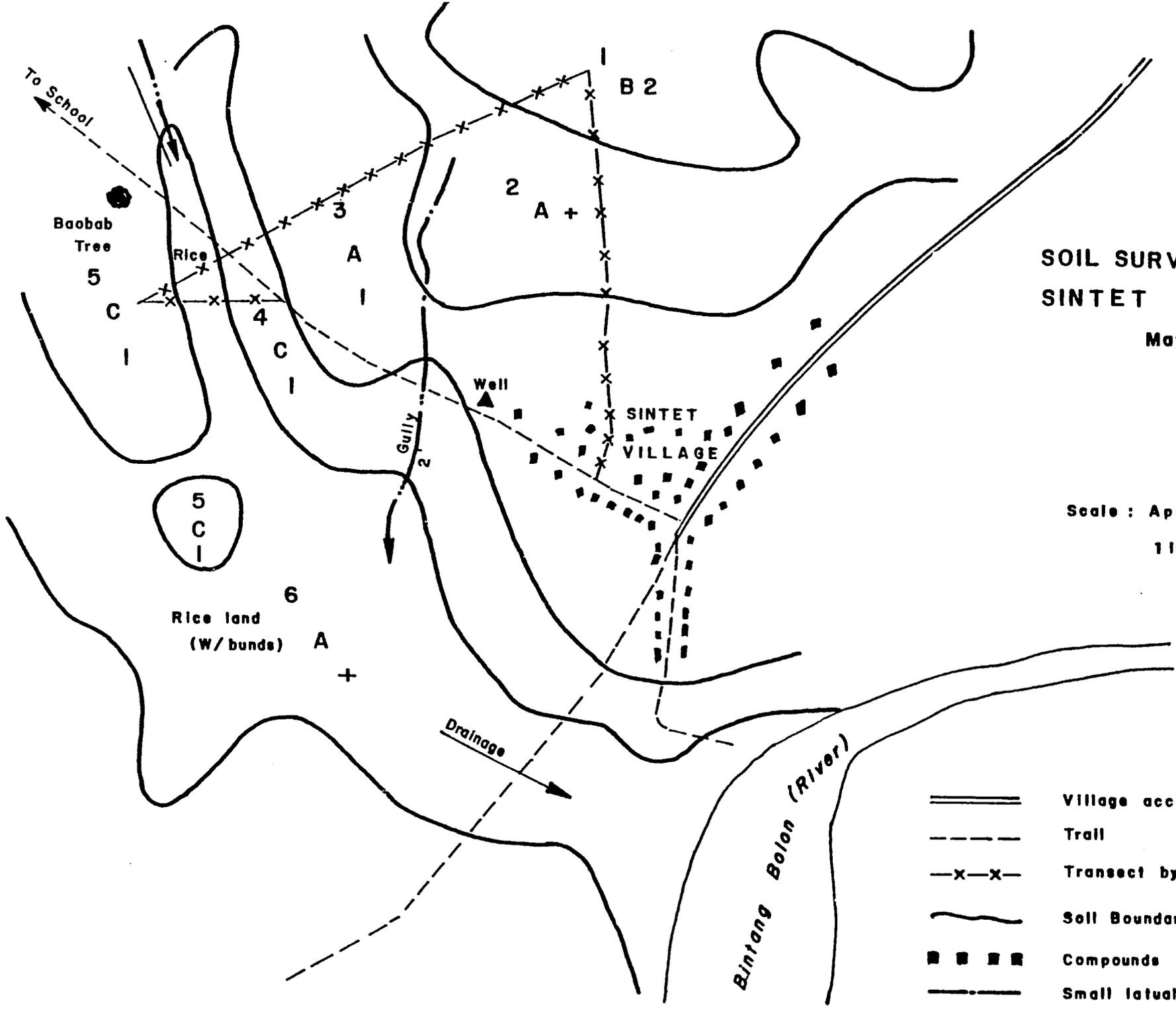
- Small drainage ways
- Gullies
- Soil boundary line
- Fence

Approx. Scale 1/1200



**SOIL SURVEY SKETCH
SINTET VILLAGE
May 1977**

**Scale : Approx. 1/7000
1 inch = 600 feet**



-  Village access Road
-  Trail
-  Transect by Team
-  Soil Boundary Line
-  Compounds
-  Small lateral drainage Ways
-  Gully

Kanjibat Mixed Farming Center

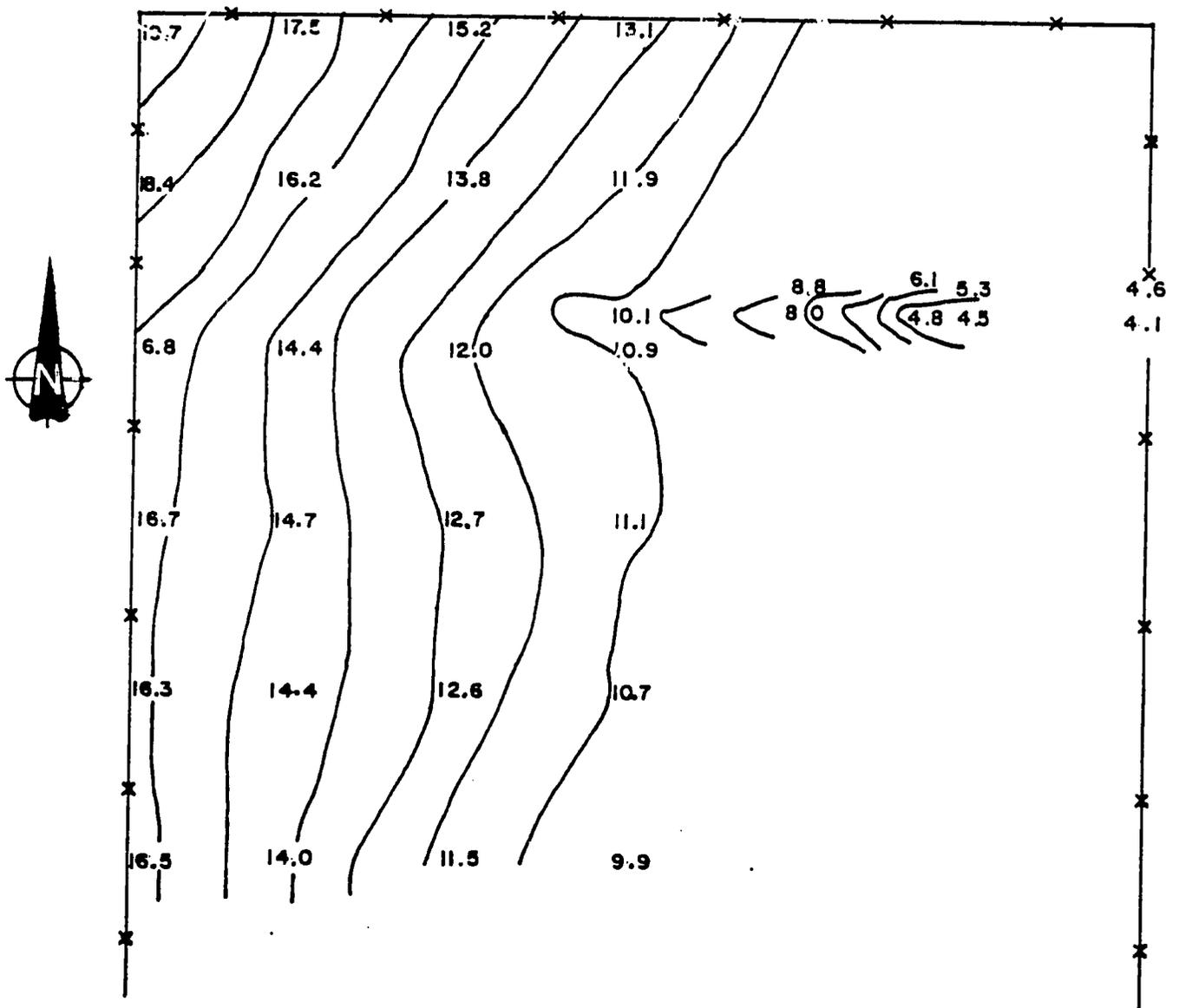
The following pages are sketches of a) the topography and drainage, and b) the soil survey of the field north of the buildings at the Kanjibat Mixed Farming Center. The contour lines were determined by a grid survey using an engineering level. Mr. Bojang, Agricultural Assistant at the Center, informed the party that runoff and erosion were problems in the fields. During the survey it was apparent that gullies have formed. At the east end of the drainageway, the dual readings represent elevations in the bottom of, and adjacent to, the gully. The gully ranges from 0.5 to 1.3 feet deep.

The soil survey sketch indicates moderate sheet erosion on soil map unit 1 B2. Significant erosion is thought to be occurring on the 3 A1 soil map unit, although less than on 1 E2. Soil map units on this sketch are considered roughly the same as those with the same number on the soil survey map of Sintet village also contained in this Annex.

This field is thought to be typical of large areas of The Gambia. The extent of the runoff and erosion problem, readily apparent on the bare land in the dry season, is much greater than indicated by the PRP Team based on observations near the end of the wet season.

Solutions to the erosion problems observed seem relatively simple, and a plan to realign the fields, grass the waterways, and divert channels could be developed. The AA at Kanjibat indicated a desire to carry out such a program, both to improve the fields and provide a learning and demonstration area.

TOPOGRAPHIC MAP - NW CORNER
 KANJIBAT MFC; WESTERN DIVISION,
 THE GAMBIA 5-5-77



Distances paced; elevations derived from assumed
 HI; Scale 1" = 100'

ANNEX D: ECONOMIC ANALYSIS

In principle, the methodologies and criteria applicable to feasibility analysis of projects with environmental goals are analogous to those established for other types of projects. In general terms, a comparison of costs and benefits resulting from the project should furnish a positive cash flow when discounted over time at the opportunity cost of capital. The measurement and quantification of cost and benefit streams in the context of environmental considerations often prove to be extremely difficult tasks, however, and depend critically on the best judgment of the technician involved in the project appraisal.

All environmental analyses will encounter both quantifiable and non-quantifiable variables. The former can be analyzed mathematically, the latter only descriptively, but any exercise involving project choice must necessarily examine both. This section is an attempt to analyze the quantifiable aspects of the SWMU project in The Gambia. The benefit and cost sides of the equation are first treated individually and then reintegrated into the concluding remarks. In all instances the PP team has attempted to weigh the quantitative aspects of the project conservatively, given the tenuous and incomplete nature of the bulk of the technical data on the topic, and thus have arrived at what we feel are realistic, albeit perhaps somewhat understated conclusions.

Benefits

Basically the easily observable impact of soil and water management interventions are those linked to national agricultural production, for which an economic value can be established. It is equally true, as has been pointed out many times earlier in this paper, that soil management practices affect a very broad and complex natural interrelationship, including forests, rangeland, animal life and the human condition, but generally in a less direct and longer term fashion than that of agricultural production. These additional benefits are very real ones, however, and although not included in this analysis, must be weighed when considering the feasibility of the project.

Annex Figure D 1 graphically indicates the anticipated effect that the SWMU should have on improving and sustaining agricultural production in the Gambia. The magnitude of agricultural production induced by the project is a function of

- increased plant nutrients
- improved tilth
- increased rainwater infiltration

Each of these actions is highly complementary to the others and their individual impacts on productivity can only be measured by an examination of their associated actions as a whole. As a precursor, however, some useful information can be presented on each of the individual parts.

Increased plant nutrients

Compost and other organic fertilizers are generally considered to be more valuable as soil conditioners than as fertilizers. Nevertheless, as fertilizers, these wastes contain from 0.2 - 1.5% N, 0.01 - 3% P and 0.2 - 2% K, plus other important elements such as calcium, magnesium, iron and sulfur. ^{1/} When used in tandem with chemical fertilizers they increase fertilizing efficiency by reducing fertilizer runoff or evaporation.

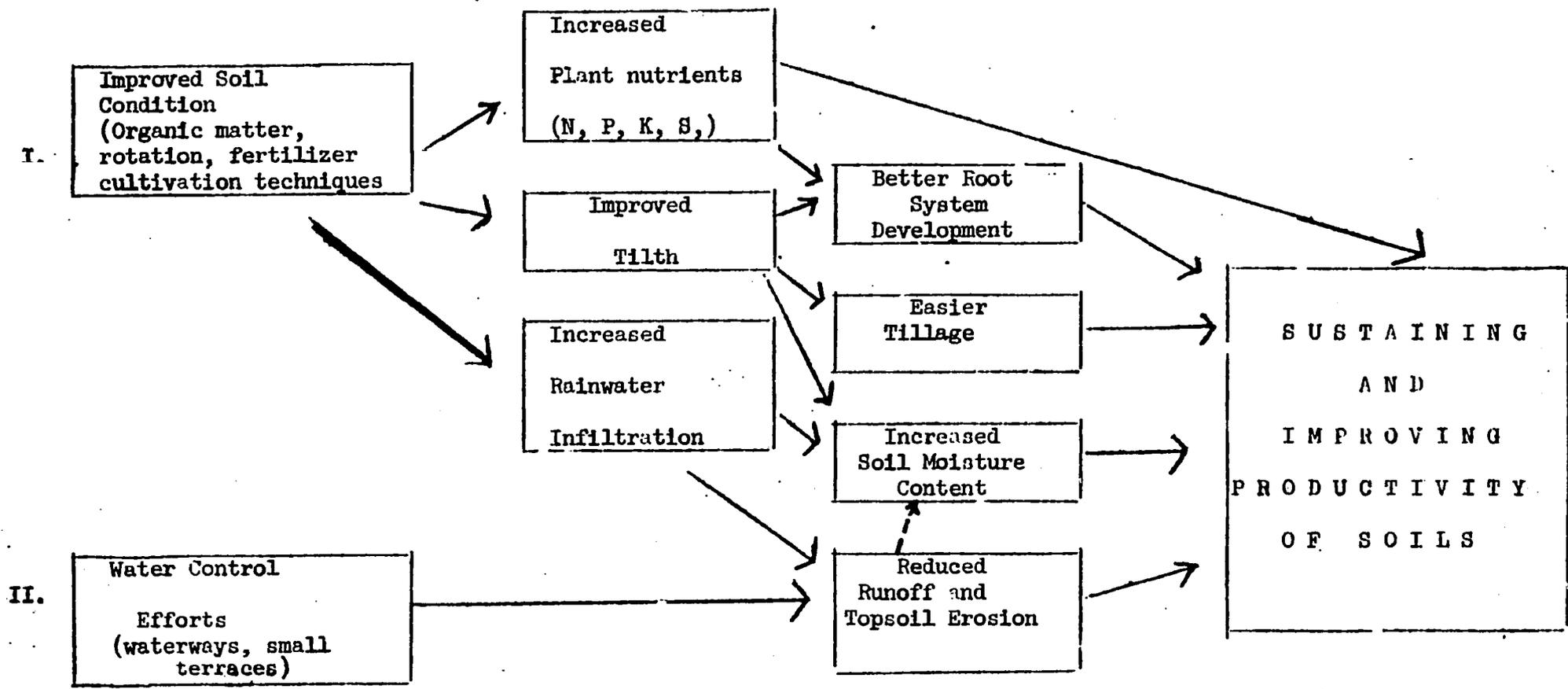
According to the recent Land Resources Survey, nutrient reserves in Gambian soils are extremely low, with N levels, for example, rarely exceeding .04% in topsoils. Current recommendations by local production specialists call for fertilization at the following levels:

(lbs/acre)	<u>N</u>	<u>P</u>	<u>K</u>	<u>Other</u>
- Groundnuts	-	8-10	-	Trace "S"
- Traditional Cereals	22-45	8-10	-	
- Rice	53-71	8-10	-	
- Cotton	22-45	8-10	-	Trace "S"

Depending upon local conditions, correct fertilization at these levels can often evoke responses ranging from 40-100% over traditional yields.

Manure and other organic matter incorporated into the soil without burning would, in conjunction with the associated effects of improved tilth and more humid top and subsoils, provide a powerful stimulus to increased productivity, most notably in cereal grains.

^{1/} According to the research journal Organic Manures, published by the Indian Council of Agricultural Research (Technical Bulletin No. 32) an adult cow, grazing under conditions similar to those found in the Gambia is capable of producing 54.9 lbs. N, 15.2 lbs. P and 43.6 lbs. K through normal liquid and solid excrement in one year.



DIAGRAMMATIC OUTLINE OF QUANTITATIVE BENEFITS EXPECTED TO FLOW FROM THE PROJECT

Improved tilth

Additions of organic matter through plant residues and animal manures improve soil structure and make the soil more porous. Such additions are thought to be the only reasonable way to reverse the trend toward increased compaction and density of the surface soil horizon. By making the soil more friable and porous, the distribution of plant root systems is facilitated, as well as a more effective use of available water and nutrients in the surrounding soils.

Improved soil structure resulting from the addition of organic matter will result in more efficient tilling practices for the Gambian farmer, whether by hand or ox-drawn methods. All tillage operations, including those required for planting, weeding and harvesting (groundnuts and rootcrops) will be made easier. Lowe ^{1/} has indicated that these operations account for some 84% of a traditional farmer's labor input per acre of groundnuts cultivated.

Increased rainwater infiltration

The incorporation of organic matter increases the infiltration of rainfall and consequently reduces the amount of surface runoff. The runoff of rainwater is probably more critical to the Gambia than to most other West African nations given that a part of utilizable water resources is lost to agriculture in this manner as it flows into the saline waters of the Gambia River.

Indications of the amount of runoff and infiltration as presented in the Land Resource Study are furnished in the following table for representative areas of the Gambia.

Annex Table D 1: Runoff losses from storm of 1.6.73 at the beginning of the wet season

Site	Soil Type	Rain (mm)	Observed increase in soil water (mm)	Est. Evap. (mm)	Infil- tration (mm)	Runoff Loss (%)
Giroba kunda	Lower Colluvial	91	44	7	51	44
Giroba kunda	Upper Colluvial	91	53	7	60	34
Sabi Badjara	Lower Plateau	103	35	6	41	60
Sabi Yeli	Upper Plateau	59	22	6	28	53

^{1/} Dunsmore, et. al. p. 324

At these runoff levels on Gambian soils it can be estimated that average annual topsoil loss is some 12 tons/acre, or approximately 1/15" annual topsoil erosion based on an estimated 180 tons/acre for one inch of topsoil. The importance of this topsoil loss due to erosion is graphically illustrated in Annex Figure D 2. Although only a generalized model, it should be noted that, under traditional cultivation, reductions in yield of up to 60% are possible within a 30-year timeframe, due to topsoil erosion.

As an estimate of the order of magnitude of correction possible we have considered that this runoff rate could be reduced by 40-50% within 10 years through the incorporation of 2-4 tons of organic matter/acre/year. It could be expected that, beyond the initial 10 year period, the reductions in rainwater runoff would become progressively less over time as the organic matter in the soil approaches a stable level and attains a self-sustaining condition by the end of the second decade.

Any reduction in the amount of surface runoff implies a higher moisture content in the arable soil--a basic prerequisite to sustained plant growth due to its direct use by plants as well as its role as the solvent that delivers nutrients to their roots.

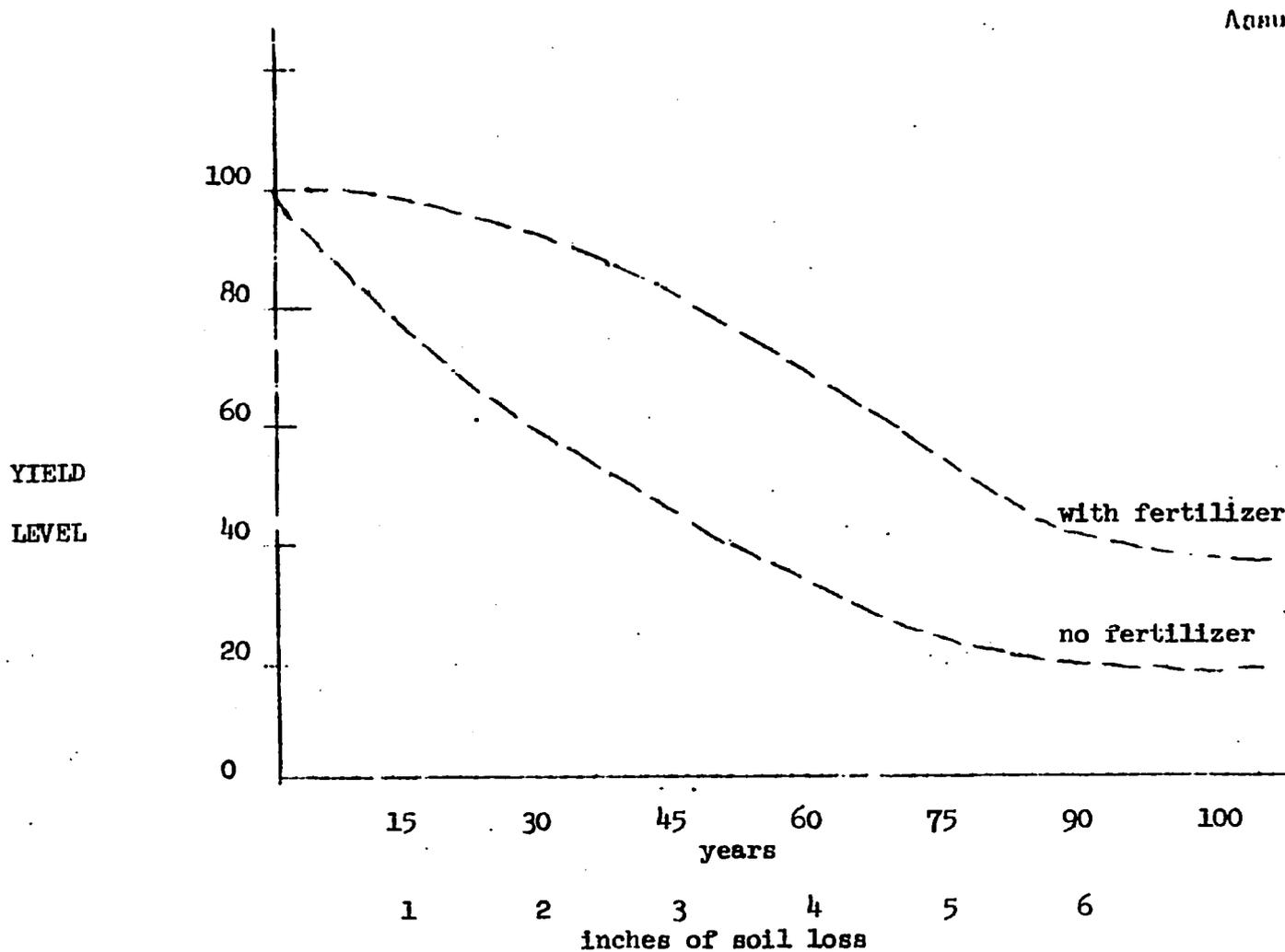
An illuminating example of the importance of soil moisture to plant development was provided in the results of cotton field trials in Northern Nigeria 1/ (an area similar in soil characteristics and rainfall patterns to those of the Gambia). With conservation measures only 31% of rainwater infiltrated into the upper layers and in a 42-inch rainfall season the soil at a 30-inch depth was not even wetted. After simple conservation practices (notably tie ridging) the infiltration depth increased to over 48 inches and tenfold increases in seed cotton production were attained, partially due to increased moisture and partially because of more effective utilization of fertilizers.

Total benefits

The cumulative effect on production of the diverse factors described to this point is extremely difficult to assess in the absence of reliable local data and field trials.

1/ See Webster and Wilson, p. 123-124.

Annex Figure D₂. Generalized model of yield reduction over a 100-year period on soil with 6 inches of A₁ horizon (1080 Tons) and Annual Soil Erosion Loss of 12 Tons/acre.



Assumptions: yield level of 100 with fertilizer is about twice that with no fertilizer.

without fertilization, loss of yield due to erosion is caused both by fertility loss and loss in available water. Plant vigor in using available water is reduced.

with fertilization, plant vigor in using available water is increased

Source: 1. SCS Field Experience, 2. Bornemiza & Alvarado (ed.) p. 372-408

Annex Table D-2

Agronomic Results from Three Systems of Cropping
in Senegal, compared by plant and by region

Source: IRAT - Senegal, 1972

Crops	Regions	Number of experimental sites	Years of comparison	Number of annual results	Yields kg/ha			Yield indices		
					* F ₀ T ₀	F ₁ T ₁	F ₂ T ₂	F ₀ T ₀	F ₁ T ₁	F ₂ T ₂
Pearl Millet	Northern	2	66-70	9	578	689	948	84	100	133
	Center	3	65-70	13	366	688	999	53	100	145
	Southern	3	63-70	13	1,105	1,763	2,429	63	100	138
	Weighted mean	8	63-70	35	695	1,088	1,517			
Sorghum	Sine-Saloum	5	65-70	28	893	1,597	2,100	56	100	131
	Eastern	4	65-68	9	1,086	1,723	2,729	63	100	158
	Southern	1	67-68	2	1,617	1,905	2,190	85	100	115
	Weighted mean	10	65-68	39	975	1,642	2,166	59	100	132
Maize	Eastern	1	66-68	3	792	1,338	2,425	50	100	182
	Southern	1	67-70	4	168	1,284	2,684	13	100	209
	Weighted mean	2	66-70	7	436	1,308	2,573	33	100	197
Rainfed Rice	Southern	3	68-71	9	443	1,711	2,630	26	100	154
Cotton	Eastern	2	65-68	6	1,109	1,531	2,061	67	100	135
Ground-nut	Northern	2	65-70	10	861	920	1,044	94	100	114
	Center	3	65-70	30	998	1,238	1,154	81	100	93
	Sine-Saloum	5	65-70	52	1,454	1,732	1,997	84	100	115
	Eastern	4	65-68	26	1,426	2,232	2,339	64	100	105
	Southern	3	63-70	19	1,644	1,905	2,072	86	100	109
	Weighted mean	17	63-70	137	1,311	1,669	1,821	79	100	109
Cowpea	Northern	2	65-70	9	653	727	875	90	100	120

* Mineral fertilization

F₀: No fertilizationF₁: Light fertilizationF₂: Heavy fertilization

Soil tillage

T₀: Hand superficial tillageT₁: Superficial tillage with horse draftT₂: Deep tillage (plowing) with oxen draft

Systems of Cropping

F₀ T₀: Traditional shifting cultivationF₁ T₁: Improved shifting cultivationF₂ T₂: Semi-intensive cultivation

Some indications of the total effect of the SWMU interventions on yield can be provided, however. In the United States, for example, extensive raw data have been assembled relating soil erosion to crop yields. The data are published in more than 1000 soil surveys and were developed from interviews with farmers, soil conservationists and extension agents over the 4 to 6 year period while the soil survey was in progress. Yield reductions can range from 25% on soils with favorable subsoils to essentially 100% on soils with very unfavorable subsoils for certain crops unless the effects of erosion are compensated by increased fertilizer or other inputs. It needs to be noted that, under Gambian conditions, the effects of erosion can not be easily offset due to the lack of mechanization, fertilizer and capital. Therefore the effect of erosion in the Gambia will be more immediately and directly felt than has been the general case in the United States.

The responsiveness of Gambian soils to improved soil management can also be illustrated through field trials undertaken in Senegal (see Table D 2) where simple alterations in the level of plant nutrients ("fertilization") and better tillage ("tillage") resulted in up to threefold yield increases for sorghum and almost twofold yield increases for groundnuts in neighboring Sine-Saloum province.

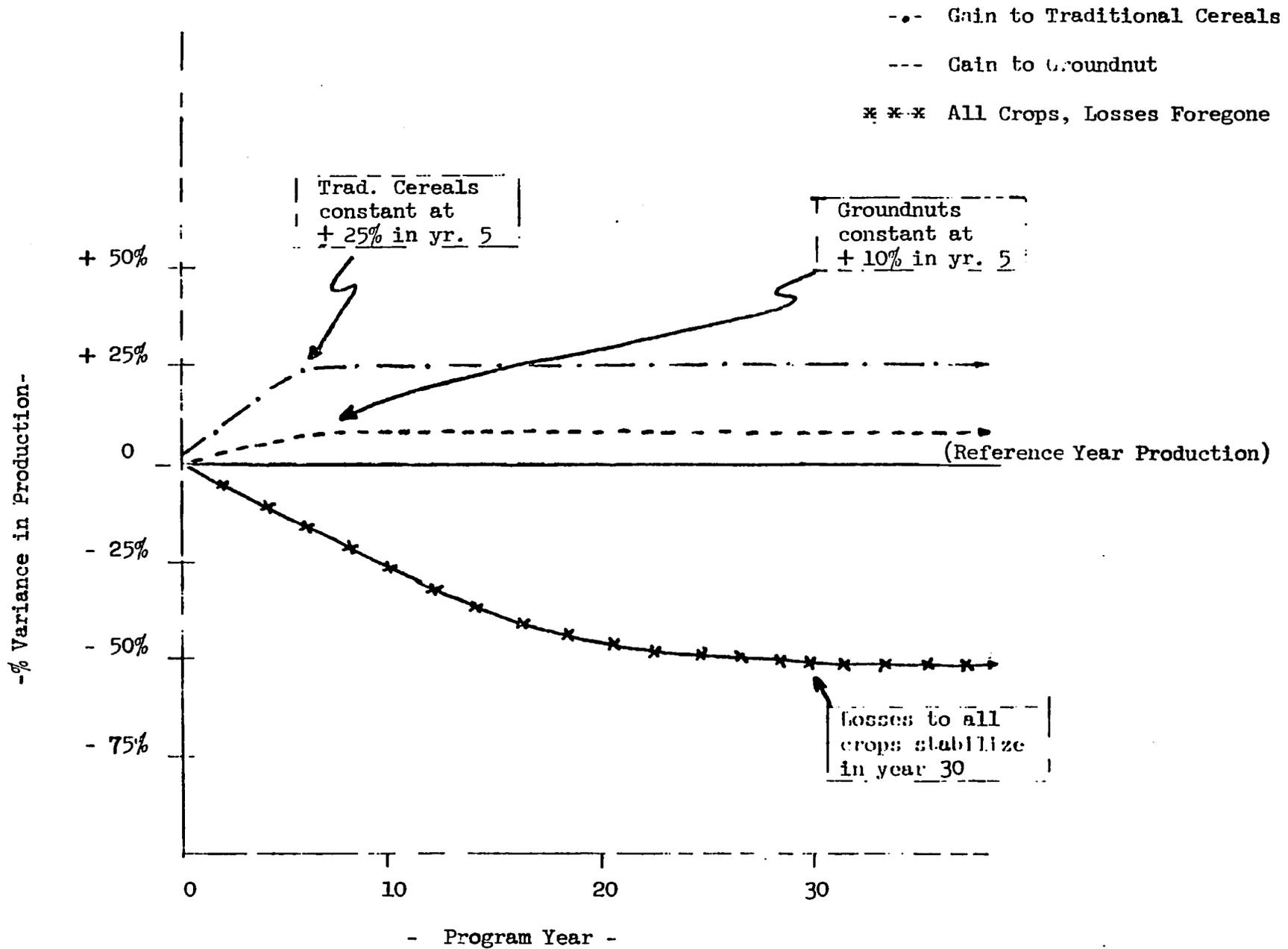
Conceptually we can describe the SWMU's overall beneficial effect to production on two separate levels, both of which have been graphically presented in Annex Figure D 2.

Production gains

There is no doubt that the cumulative effect of increased plant nutrients, better root system development, easier tillage, less erosion and higher soil moisture content will lead in the short and long run to better yields than the reference situation. Based on the current lack of sound soil and water management practices and the poor growing conditions provided by most Gambian soils, rapid initial yield increases should easily be obtained in those areas where SWMU recommendations are adopted. As a prudent hypothesis we have assumed an increase in yield of +25% for traditional cereals and +10% for groundnuts, both within 5 years and both leveling off thereafter. Groundnut yields are taken at only 10% given that they do not require additional nitrogen (groundnuts are a "legume", or nitrogen-fixing) as do the cereals, but will respond, in any case, to the increase in organic matter.

ANNEX FIGURE D 3: ESTIMATE MODEL OF BENEFITS FLOWING FROM SWMU

PROGRAM INTERVENTION OVER TIME



Foregoing c. production loss

Erosion of valuable topsoil will result in production loss. Although the Gambia is basically flat topographically (slopes rarely exceed 5%) Gambian soils are easily eroded and rainfall is intense (up to 0.2 in./minute) at times of year when the topsoil is the most vulnerable. In the absence of regular and widespread soil and water management practices topsoil losses could conservatively be considered at 12 tons/acre/year. This will represent a probable reduction in yield of 50% within 30 years if permitted to continue. A second benefit of the SWMU program, therefore, will be the foregoing of this production loss, conceptualized curvilinearly in Annex Figure D 3.

Both of these benefits - production gains and the foregoing of production losses - have been calculated assuming that SWMU practices are fully adopted by traditional farmers at the national rate for cereals of 10 acres in year 2, 100 acres in year 5, 1000 acres in year 10, 50,000 acres in year 20 (approximately 1/2 of total current cereal acreage) and leveling out thereafter. In establishing this hypothesis careful attention was paid to total acreage now cultivated and the projected number of extension agents available to undertake the effort. The shape of the rate of adoption curve has followed that of a normal "S-shaped" learning curve (the exact configuration of this curve is of course impossible to predict with accuracy). Calculations of total benefits derived in this way are outlined in Annex Table D 3 by year, acreage, incremental tons and incremental value added for both cereals and groundnuts, the two crops most likely to be affected by the program. All basic hypotheses are noted in the footnotes to that table.

Costs

The costs associated with the SWMU program are relatively direct and easily calculable. The contribution by both USAID and the GOTG for the first five years has already been described in some detail in Part III D, "Final Analysis". In years 6-10 USAID anticipates approximately D 188,000 assistance per year to defray supplementary consultancy costs and the GOTG will provide necessary salary and operating costs for the program over the years 6-30. It needs to be pointed out that the use of U.S. consultants in years 6-10 is highly speculative at this stage and that further, the PP Team considers the cost stream indicated in the analysis sufficient to cover most eventualities.

All costs are expressed in May 1977 dalasis and contain no tax element.

Conclusions

Building on the preceding data, a representative net cash flow was assembled over a 30-year period and is presented in Annex Table D 3. Despite the relatively important early build-up of the cost stream in contrast to the sluggish benefit stream, a favorable 14.8% internal rate of return was obtained from this analysis.

**ANNEX TABLE D 3: EXPECTED IMPACT OF SWMU INTERVENTIONS
ON REFERENCE YEAR CROP PRODUCTION**

Program Year	CEREALS			GROUNDNUTS		
	Acres(1)	Tons(2)	'000(3)	Acres(4)	Tons(5)	'000(6)
1	0	0.0	0.0	0	0.0	0.0
2	10	0.3	0.1	20	0.4	0.1
3	40	1.6	0.3	80	1.6	0.6
4	70	3.9	0.7	140	5.1	1.8
5	100	7.1	1.3	200	9.3	3.3
6	280	24.9	4.5	560	20.7	7.5
7	460	42.8	7.7	920	24.7	8.9
8	640	60.6	10.9	1,280	28.7	10.3
9	820	78.5	14.1	1,640	32.6	11.7
10	1,000	96.3	17.3	2,000	36.6	13.2
11	5,900	574.1	103.3	11,800	40.5	15.3
12	10,800	1,051.8	189.3	21,600	779.5	280.6
13	15,700	1,529.6	275.3	31,400	1,518.5	546.7
14	20,600	2,007.3	361.3	41,200	2,257.4	812.7
15	25,500	2,485.1	447.3	51,000	3,380.7	1,217.1
16	30,400	2,962.9	533.3	60,800	4,503.9	1,621.4
17	35,300	3,440.6	619.3	70,600	5,627.2	2,025.8
18	40,200	3,918.4	705.3	80,400	6,750.5	2,430.2
19	45,100	4,396.1	791.3	90,200	7,873.7	2,834.5
20	50,000	4,873.9	877.3	100,000	8,997.0	3,238.9
21	50,000	5,394.4	971.0	100,000	9,844.9	3,544.1
22	50,000	5,914.9	1,064.7	100,000	10,692.8	3,849.4
23	50,000	6,435.3	1,158.4	100,000	11,540.7	4,154.7
24	50,000	6,955.8	1,252.0	100,000	12,388.5	4,459.9
25	50,000	7,476.3	1,345.7	100,000	13,239.1	4,766.1
26	50,000	7,996.8	1,439.4	100,000	14,144.3	5,070.3
27	50,000	8,517.3	1,533.1	100,000	14,932.2	5,375.6
28	50,000	9,037.7	1,626.8	100,000	15,780.1	5,680.8
29	50,000	9,558.2	1,720.5	100,000	16,628.0	5,986.1
30	50,000	10,078.7	1,814.2	100,000	17,475.9	6,291.3

(1) Assuming that traditional farmers fully adopt SWMU practices at the rate of 10 acres in Y₁, 100 acres in Y₅, 1000 acres in Y₁₀, 50,000 acres in Y₂₀ (maximum).

- (2) a) Traditional yield = 800 lbs/acre
 b) Net gain taken at +6.3% in Y₂, 12.5% in Y₃, +18.8% in Y₄, and constant after Y₅ at +25%.
 c) Losses foregone assumed on a linear basis for convenience Y₁ = 0%, Y₃₀ = 50% (representing a slightly conservative deviation from the observed situation).

- (3) a) average cereal farmgate price = D 200/ton
b) Estimated 10% input cost already subtracted from total value to indicate net value added.
- (4) Traditional farmers plant approximately 2 acres of groundnuts to every acre of cereal. The total number of acres of groundnut land utilizing SWMU practices was taken to be 2 times that of cereals.
- (5) a) Traditional yield = 1,000 lbs/acre.
b) Net gain taken at +2.5% in Y₂, +5.0% in Y₃, +7.5% in Y₄ and constant after Y₅ at +10%.
c) Losses foregone remains as in 2(c) above.
- (6) a) Estimated groundnut farmgate price = D 400/ton based on IBRD economic appraisal.
b) Net value added calculated as in 3(b).

ANNEX TABLE D 4: ANTICIPATED SWMU PROGRAM COSTS
(000 Dalasis at May 1977 prices)

<u>Year</u>	<u>USAID 1/</u>	<u>GOTG</u>	<u>TOTAL</u>
1	968.0	46.0	1,014.0
2	823.0	122.2	945.2
3	832.0	135.5	967.5
4	518.0	146.6	664.6
5	518.0	172.0	690.0
6	165.0	175.0	340.0
7	165.0	182.0	347.0
8	165.0	189.0	354.0
9	165.0	196.0	361.0
10	165.0	200.0	365.0
11	-	200.0	200.0
12	-	200.0	200.0
13	-	200.0	200.0
14	-	200.0	200.0
15	-	200.0	200.0
16	-	200.0	200.0
17	-	200.0	200.0
18	-	200.0	200.0
19	-	200.0	200.0
20	-	200.0	200.0
21	-	200.0	200.0
22	-	200.0	200.0
23	-	200.0	200.0
24	-	200.0	200.0
25	-	200.0	200.0
26	-	200.0	200.0
27	-	200.0	200.0
28	-	200.0	200.0
29	-	200.0	200.0
30	-	200.0	200.0
TOTAL	4,484.0	5,564.3	10,048.3

1/ USAID costs calculated at \$1 = D 2.3

ANNEX TABLE D 5: ESTIMATED ECONOMIC CASH FLOW OVER 30-YEAR LIFE

(000 Dalasis)

Year	Benefits		Total Benefits	Total Costs	Net Cash Flow
	Cereals	Groundnuts			
1	0.0	0.0	0.0	1,014.0	1,014.0
2	0.1	0.1	0.2	945.6	945.4
3	0.3	0.6	0.9	167.5	966.6
4	0.7	1.8	2.5	664.6	662.1
5	1.3	3.3	4.6	690.0	685.4
6	4.5	7.5	12.0	340.0	328.0
7	7.7	8.9	16.6	347.0	330.4
8	10.9	10.3	21.2	354.0	332.8
9	14.1	11.7	25.8	361.0	335.2
10	17.3	13.2	30.5	365.0	334.5
11	103.3	15.3	118.6	200.0	81.4
12	189.3	280.6	469.9	200.0	269.9
13	275.3	546.7	822.0	200.0	622.0
14	361.3	812.7	1,174.0	200.0	974.0
15	447.3	1,217.1	1,664.4	200.0	1,464.4
16	533.3	1,621.4	2,154.7	200.0	1,954.7
17	619.3	2,025.8	2,645.1	200.0	2,445.1
18	705.3	2,430.2	3,135.5	200.0	2,935.5
19	791.3	2,834.5	3,625.8	200.0	3,425.8
20	877.3	3,238.9	4,116.2	200.0	3,916.3
21	971.0	3,544.1	4,515.1	200.0	4,315.1
22	1,064.7	3,849.4	4,914.1	200.0	4,714.1
23	1,158.4	4,154.7	5,313.1	200.0	5,113.1
24	1,252.0	4,459.9	5,711.9	200.0	5,511.9
25	1,345.7	4,766.1	6,111.8	200.0	5,911.8
26	1,439.4	5,070.3	6,509.7	200.0	6,309.7
27	1,533.1	5,375.6	6,908.7	200.0	6,708.7
28	1,626.8	5,680.8	7,307.6	200.0	7,107.6
29	1,720.5	5,986.1	7,706.6	200.0	7,506.6
30	1,814.2	6,291.3	8,105.5	200.0	7,905.5

To test the sensitivity of the basic analytic parameters to potential measurement errors several sensitivity tests were undertaken. These tests include:

- Test 1 All benefits attributed to "production gains" were eliminated (both cereals and groundnuts). The program is required to stand only on the benefits derived from "losses" foregone", due basically to structural improvement of soils.

- Test 2 Both the "production gains" and approximately 50% of the "losses foregone" were eliminated. The program is required to indicate feasibility with only a minimum of soil erosion prevention.

- Test 3 Costs are increased by 20% and benefits remain unchanged.

- Test 4 Costs are increased by 20% and "production gains" are eliminated (Test 1).

- Test 5 Costs are increased by 20% and "production gains" and 50% of "losses foregone" are eliminated (Test 2).

The results of these various analyses follow and indicate a remarkable lack of sensitivity to important alterations on both the cost and benefit sides of the equation. It would appear conclusive therefore, that in all but the most pessimistic conjuncture of events, the project remains economically feasible.

<u>Analysis</u>	<u>I.R.R.</u>	<u>Net Present Worth at 10%</u>
Basic analysis	14.8%	5,098.0
Test 1	10.0%	- 89.9
Test 2	5.3%	-2,683.8
Test 3	14.0%	4,042.4
Test 4	9.2%	-1,145.5
Test 5	4.4%	-3,939.4

Finally, it should not be forgotten that the SWMU, as conceived in this paper, is conceived to make further significant positive contributions to the natural environment, including better utilization of irrigable areas, range management, reforestation, river bank and wind erosion. These interventions, if properly conceived and implemented, could lead to additional benefits of considerable magnitude and of very real importance to the Gambian economy.

LAND USE PATTERNS

The Land Resources Division of the British Ministry of Overseas Development (ODM) undertook a broad agricultural, environmental and socioeconomic analysis of The Gambia in the years 1972-75. One of the significant findings of that study was an estimate of the suitability of Gambian soils for agriculture, by administrative division within the country, as well as current patterns of land use by soil suitability group.

The results are indicated below:

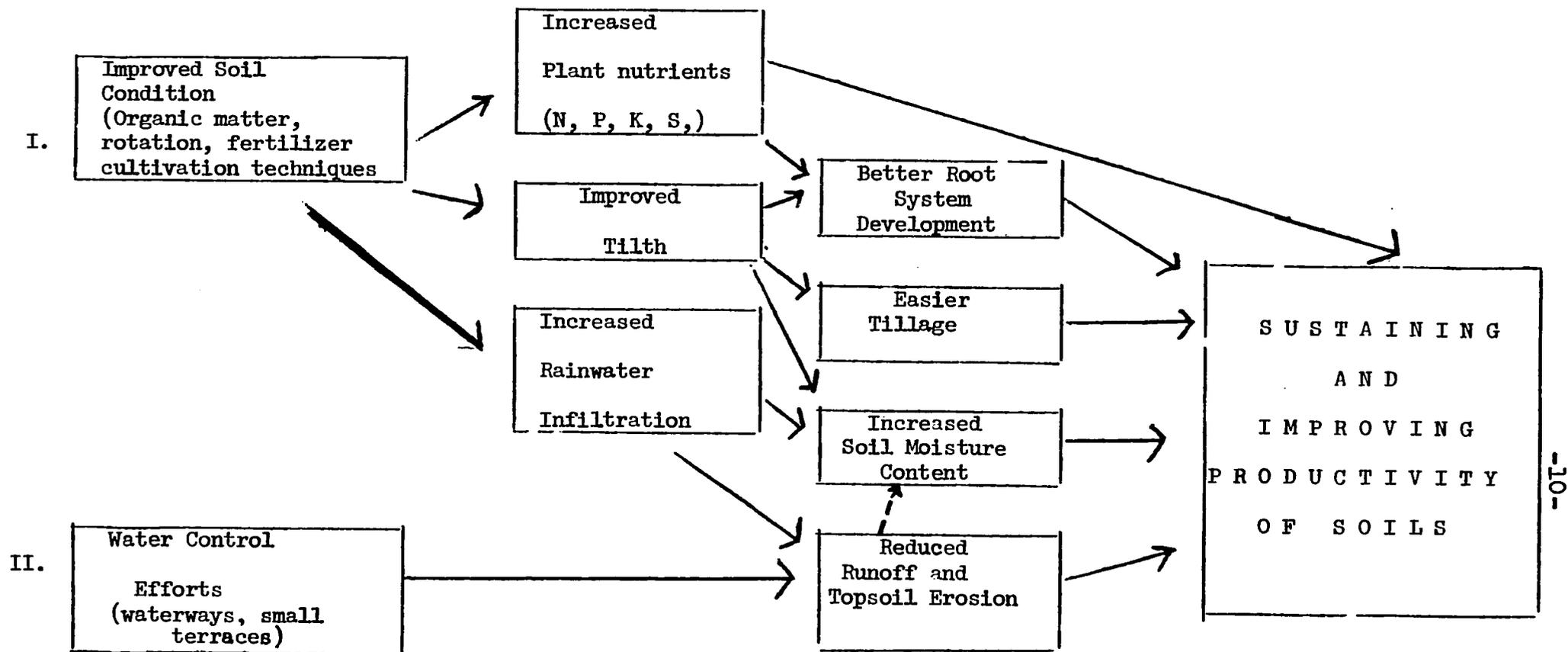
Soil Suitability to Agricultural Development by Geographical Region

(acres)

Soil Group	Western	Lower River	North Bank	MacCarthy Island N	MacCarthy Island S	Upper River N	Upper River S	TOTAL
1. Unsuitable	79 025	197 175	202 155	129 690	97 330	85 690	89 440	877 49 (34%)
2. Marginal	62 635	45 035	36 545	37 705	40 305	33 890	17 890	311 66 (12%)
3. Suitable w/qualifications	96 660	53 605	75 935	21 450	58 465	27 805	30 340	366 61 (14%)
4. Suitable	193 580	84 225	231 475	100 670	83 670	38 240	76 055	806 39 (32%)
5. Suitable & Irrigable	0	0	0	37 225	71 455	36 595	50 880	200 41 (8%)

Percentage Land Use by Soil Suitability Group

Soil Group	Cultivated	Fallow	Uncultivated	Non-agricultural	TOTAL
1. Unsuitable	2%	17%	78%	3%	100%
2. Marginal	4%	31%	64%	1%	100%
3. Suitable w/ qualifications	18%	47%	33%	2%	100%
4. Suitable	22%	53%	22%	3%	100%
5. Suitable & irrigable	7%	15%	77%	1%	100%



DIAGRAMMATIC OUTLINE OF QUANTITATIVE BENEFITS EXPECTED TO FLOW FROM THE PROJECT

1. The Village

There are two discernible levels of jurisdiction in village government, lineage government and village government. The SWMU team should be familiar with the limits of each since it will determine the limits of the jurisdiction of the various elders with whom they will be dealing, especially in relation to the Alkali and with respect to questions involving land distribution.

a) Village Government

Village government has jurisdiction over all the things which we think of as public works, such as building and maintaining wells, mosques, communal grain stores, the public meeting place, public paths in the village and through the cultivated land around the village. Although compound families own the cultivated land, the heads of families in each village meet to determine when planting and harvesting should begin. Village government also undertakes a limited amount of policing of personal behavior, but only if the family to which a troublesome individual belongs cannot control him. They pass rules on the control of livestock and the location of new compounds and fences.

A village is made up of a number of compounds. Sometimes one can find a village where all the compounds have been founded by members of the same lineage, but not often. Usually villages are made up of compounds founded by different lineages. The lineage which settled in the village first is considered the founding family, and therefore the village's First Family. The eldest member of the senior branch of the founding family resident in the village is usually the village head, or Alkali. Families who come later seek permission to settle from the village head. They and their descendants are expected to respect the rights of the founding family and to keep the village head informed about what is happening in their compounds. The village head bears much the same relationship to all the compounds in his village as the compound head bears to members of his compound. Like the compound head, he is chief spokesman for his village when matters involving more than one village came up.

Affairs which come under village jurisdiction are handled by a village meeting. The right to attend the meeting and to speak depends upon the ethnic group, the area, and even local customs. Among Mandinkas, for example, only the adult male elders generally speak. If the subject of a meeting particularly concerns people who do not ordinarily attend, such as women, the elders of that group may be expected to take part on that occasion. The main ones to speak in the meeting are the compound heads, of whom the village head is one, the first among equals. For example, if the people are thinking about building a new mosque, digging a well, or moving the village, a meeting will be called. The elders will meet, and the village head will open the discussion by stating the problem and calling for ideas and strategies. Each compound head who wishes to speak will state his opinion, and everyone is aware that he speaks on behalf of those in his own compound as well as for himself. There is no set order of speakers other than a tendency to defer to age. Others may be invited to venture their opinions, but the compound heads will have already spoken on behalf of most.

Most of the time the village elders have thoroughly discussed the matter with their families and with one another and have achieved a consensus before the village meeting is convened. The meeting is a formal presentation of all opinions, and a final stamp of approval on the agreement already reached. At other times, a village meeting might be called before a consensus has been reached to get all sides into the open. If a consensus is not achieved, the matter is dropped, either for good, or until further discussion brings general agreement. Otherwise, bitter quarrels could split the village.

Once a decision is reached, all are expected to support it, even if they opposed it earlier. Those who continue to voice opposition are condemned severely as troublemakers and face ostracism and even physical violence if they refuse to go along with the majority.

Once the elders reach a decision that involves labor, such as building a bridge, the younger men and women of the community are expected to organize themselves to do the work. The elders tell them what needs to be done, and the leaders of the age groups between 17 and 35 divide up the tasks, set days of work, and generally supervise themselves without help from the elders.

b) Lineage Government

i) Village Level

Lineage or family government has jurisdiction over everything concerned with the welfare of the Kabila: marriage, birth, death, divorce, circumcision, controlling the behavior of family members, and settling disputes. Lineages also control all cultivated land.

A large lineage cuts across several villages and even across national boundaries. However, the lineage in each village tends to operate as an independent sub-unit; only rarely do lineage matters in one village get referred to lineage elders residing elsewhere.

The eldest male member of a lineage resident in a village is referred to as the Kabila head. He generally speaks for and is consulted by other compound heads belonging to the same lineage on all matters concerning lineage government.

ii) Compound Level

The smallest unit of the village Kabila is the compound family. Generally the compound head is the eldest resident male member of the family which founded the compound. The compound is usually composed of the compound head, his wives and children, plus several other younger male relatives (often brothers) and their wives and children. Besides these there are often unattached younger men and women from other families or castes, slaves, farmers, traders, or others who have come to live and work with the family either permanently or temporarily. All members of the compound, whether they bear the same surname as the founding family or not, are treated like junior members of that lineage.

The compound head is the father of his extended compound family, the chief arbiter in any disputes within the compound, and the first to be consulted when a marriage, naming ceremony, or dispute arises within his compound, etc. He considers the opinions of other members of the compound, but his is the final word and people rarely go against him. His final decision, whether reached autocratically or after

considering people's views, is binding on the compound. If anyone goes against him publicly, it is regarded as public belittlement of his authority. At village meetings, he is the chief spokesman for the people of his compound. No one, not even the village head, has the right to interfere in the way he runs his compound unless they happen also to be senior members of his Kabila. Even elders of his lineage rarely dare to interfere unless the compound head is clearly abusing his authority or having some kind of trouble carrying out his responsibility. If a compound head is having difficulty on a family matter, he may invite the intervention of a respected elder in his lineage living in another town or area.

The land cleared by members of his compound belongs to his lineage and the compound head has sole jurisdiction over it. He parcels it out for the use of people living in the compound and lends out what the compound cannot use. No other elder of his lineage has any control over that land.

Normally all the land cleared by the people of the compound "belongs" to the compound head, who is responsible for distributing it for use of compound members. The bulk of the cultivated land is "his", i.e., used for the whole compound. Traditionally, Gambian farmers worked five days a week from morning until mid-afternoon for the compound head and two days a week in their own fields. Young men who were about to get married were granted an extra day to work for themselves, so that only four days a week are then allotted to the compound head.

When the farming season comes, the first crops planted are millet and rice for the compound. The people then move to plant the compound head's private farm, then to their own. Work on the compound food crops is done on days allotted to the compound head.

Income from the private fields and gardens normally belongs to the respective nuclear families, but most of the income from the compound head's fields goes to compound expenses. Ideally, young men not seeking wives keep only enough to buy a few clothes and other small things, turning the rest of their money or produce over to the compound head. This is added to the family food store or invested in cattle, sheep, and

goats, which can multiply and be converted into cash in time of need. When their turn comes to get married, young men expect their compound head to look for wives for them and pay the expenses connected with marriage.

The compound head has many duties in addition to finding spouses for the young people of his compound and paying their marriage expenses. All affairs relating to that compound are his responsibility. He is the head and father of his whole compound family. All the food grown on his farms and all the money made from the sale of cash crops grown on his fields goes for compound necessities as well as for the needs of his own nuclear family. When there is a shortage of food, he spends money to buy more. If any of the family gets into trouble with the administration, it is he who pays the fine. It is not uncommon for him to provide clothes for the entire compound on special feast days or buy mosquito nets for those who have none. His primary responsibility is to assure that all members of the compound family work together smoothly and peacefully as a unit. Regardless of their blood relationship to him, it is his duty to treat them all as if they were members of his own lineage.

2. Class Structure

There are three main classes or "castes" in traditional Gambian society: Freeborn (Forolu), Artisans (Nyamalolu), and Slaves (Jongolu). At the top of the Freeborn class are the Nobles, who can also be defined as a fourth and separate class. They were rulers and warriors. Also included among the Freeborn are the traders, muslim scholarly families, and ordinary free farmers.

The Artisan class among the Mandinka consists of smiths, leather workers and griots. The smith women make pottery. The Wolofs include weavers among the artisans. Artisans are of low status, and though they were not slaves, they are not thought of as being "free" either. Each artisan family is attached to a freeborn family in a patron-client relationship.

The slaves were the bottom rung of society. Slavery no longer exists in The Gambia, but people in the rural areas are very conscious of family origins. The slave families possessed status according to the

status of the family which owned them; even slaves owned slaves. At the top of the slave class were the "mansajongs" or "king's slaves", who were the corporate property of the ruling family of a traditional state, responsible only to the ruler himself. They were not domestic slaves at all, but had a combined function rather like that of a class of hereditary crown servants and an elite military cadre.

On the village level, the founding family of a town could belong to any of these classes or sub-classes, although it is most likely to be from the Freeborn class. Although they are given all due respect, having founders status does not change their class.

The population of a village is usually of mixed social origins, although one can often find villages inhabited by people of only one class. In the mixed villages especially, the people are all very aware of one another's origins.

3. Age

Knowing the traditional Gambian's attitude towards age is an important asset in helping an outsider operate effectively in a village setting.

Each family is arranged in a smoothly ascending hierarchy according to age, from the youngest baby to the oldest elder. Advancement to positions of respect and authority is automatic and natural. Family headship goes to the eldest male member of that family. For example, the eldest member of the village founding family becomes Alkali. He is succeeded by his next youngest brother (full-, half-, or paternal cousin); when their generation is finished, the next generation takes over. Children are taught to respect and obey their older brothers and sisters as well as all grown people. Adults will listen respectfully to those older than themselves, regardless of their class. Those who are younger may be asked to do little services for those who are older.

The SWMU team will encounter this system in operation in the Village Council. The Alkali and each of the compound heads and other elders hold their positions by right of seniority. When they speak, they

tend to speak by order of age.

There is room in the system for mature younger men of all classes who have gained a reputation for common sense, intelligence, eloquence and education. Prominent among these exceptions are men educated either in the Arabic or European tradition. Elders listen to them and give full weight to their views as long as they continue to respect those older than themselves. The SWMU team will probably be viewed by the Elders as belonging to this latter category.

Most of the jobs involved in village projects are divided up according to age and sex. Both males and females have a system of matching age grades. The old men's age grade (Mandinka: "Kebba Kafo") includes men in their late 40's and upwards, although one does not usually begin to acquire the responsibilities of an elder until his fifties. These are responsible for the policy making and rule making in the village.

The young men's age grade (Mandinka: "Kambane Kafo") includes men from about 17 to 40, and is rather like the Kebba Kafo's executive arm. They devise work strategies and do the actual physical labor to complete projects decided on by the Kebba Kafo. The women have similar arrangements of older women and younger women.

The Mandinkas have broken these grades down into smaller age sets of about 3 to 5 years spread. The key work group in a Mandinka village is the 17 to 22-year-old men and the 15 to 18-year-old women. They are the first called on to do the heavy and hard jobs. If there are not enough of them to go around, the next older sets of men and women join in. These young people also hire themselves out as a group to individual farmers for reasonable fees in order to raise money for their own social activities, for they are also the most active social set in the village. They have their own communal farms for the same reason. They and all their activities are the community's pride and joy, and they are the ones whose labor may be drawn on to accomplish village soil and water projects. Kafo labor should not be counted on exclusively, however, for rural villages are suffering a serious drain of labor as members of this group go away to school or travel to other villages to work as "strange farmers". Therefore, the Unit may find that

any labor-intensive solutions to soil and water problems may be difficult, especially in very small villages.

4. Role of Women

In the village men and women have always played separate economic, social and political roles. Since men clearly take first and senior place in this arrangement, it has been assumed by outsiders and even by many Gambians themselves that development plans will therefore involve mainly men and that the female role is minor since it is secondary.

Planners even may be somewhat reluctant to broach the subject of female participation in projects for fear of offending the elders, whose cooperation is unquestionably essential. But the elders are quite familiar with the concept that affairs affecting all must have the participation of all.

Male and female roles are not seen as overlapping or competitive. Each sex has its clearly outlined duties and spheres of influence; a member of one sex impinges on the other's territory at the peril of derision and sometimes even ostracism. No important function affecting both sexes can take place in a village or be complete unless both men and women participate in it. Each sex has to perform its separate duties in order for the whole affair to succeed. For example, in the social sphere, when a baby is named, both men and women gather to welcome it. Similarly, the formalities of a marriage contract are primarily a male affair involving only the men of the two lineages concerned, while the transfer of the bride to her husband is primarily a female affair.

This separation of roles extends into life as well. For the majority of Gambians, the traditional staple food crop is millet and its varieties. This is a man's crop. It is grown in wooded and brushy upland areas that often take a lot of labor to clear. Women grow the food crops which do not usually need a lot of clearing, i.e., rice and gardening. Rice growing, hard as it is, is done on relatively level and open fields and can be ploughed and worked without the help of men.

Only among the Jolas have both men and women always participated in rice growing. Each sex has its particular job -- men do the heavier work such as plowing

ditching, and diking while women do the lighter tasks, such as transplanting, weeding and harvesting. Women grow gardens within the compound itself and on land near the village.

With the introduction of cash cropping, millet has had to vie with groundnuts for the men's attention. As a consequence, in the rice growing areas of The Gambia, a heavier dependence has been placed on women to provide a bigger share of the family food.

5. Land Tenure and Allocation in the Village

Outside of Banjul and Combo-St. Mary, land is not registered or titled and tenure conferred. The land is held in trust by the district Chief and District Council and customary tenure rights are upheld by a 1966 law. According to customary law, land cannot be sold, rented, mortgaged or pledged for loans.

The first family to move into an unoccupied piece of land, settle, and start farming are the "owners" of the land around the village. In other words, the founding family of a village and the Alkali, who is its eldest representative, are the "owners" of an area of land that is identifiable by community custom. The boundaries are not officially marked or represented.

All other families who arrive later apply for permission from the Alkali to settle, and ask him to designate land that they may clear and farm. Therefore the Alkali is the first individual to contact on any matters relating to the use of village land as a whole. However, his authority to direct the use or cultivating practice on land is limited to the land used by the people in his own compound. The other compound heads to whom he has allocated land have sole right to redistribute it and allocate its use to anybody they please. Moreover, if there is virgin land available that has not been claimed by the village, the compound that clears this land has sole ownership of it, free of even the theoretical control by the Alkali, in order to initiate a project involving village land.

The compound head supervises the clearing of all land for the compound, and distributes plots to various members on the basis of need. He keeps back

sufficient land to grow food for the whole compound that is farmed communally on days set aside for service to him. His is the sole right over land allocation, and he may reallocate freely as the need arises. If the compound has more land than it needs, he may loan the excess to any other compounds in the village or to outsiders who ask to borrow it.

There is no "rent" charge for the ordinary borrower, only nominal exchange of kola nuts and a verbal agreement. The loan is on a year-to-year basis, and can be recalled when the compound needs it, with a year's notice being customary.

Rice land, though farmed by women, is also owned by and distributed through the compound. Most women acquire the use of rice land through their husband's right to it when they marry and come to live in his compound.

Compound heads can also turn excess land to good use and gain additional labor for the compound food crops by loaning land to "strange farmers" in return for a two or three days' labor each week on the compound fields. The strange farmer receives free food, lodging, tools and keeps the product of his own fields, although he may give a "present" to the compound head in the form of bags of groundnuts to repay seed and hospitality.

When the compound head dies, the stewardship of compound land passes intact to his successor, preventing fragmentation of the compound land.

There is no particular feeling of spiritual duty to retain the fertility of the land for the use of subsequent generations or of having received it as a "sacred trust" from their ancestors. The typical Gambian farmers' concerns for the retention of fertility and productivity do not extend much further than the immediately foreseeable future. In this aspect he is rather similar to an American farmer. The most effective appeals for his cooperation will have to be based on prospects for concrete, practical, visible and immediate benefits.

6. Communicating with the Village

a) Initial Approach

No one can expect to accomplish anything important that requires the cooperation of a traditional village unless he goes through the Alkali and the village elders. They must clearly understand what is wanted of them and of the villagers, and they must be convinced that a project is worth undertaking before they will give their full cooperation. Once they understand and are convinced of the soundness of the thing proposed, it is almost certain that the whole village will actively participate to the best of its ability.

It is also almost certain that the success or failure of any proposed project for any village will hinge on the success or failure of the first meeting. The first few minutes of this contact are the most important and can make or break the meeting. It therefore behooves any expatriate negotiator to have a sound grasp of the basic steps involved in communicating with the village elders at this crucial beginning.

The form taken by the village meeting is a simple structure for the transmission of complex ideas. If a stranger introduces an unfamiliar element into the village proceedings, he runs the risk of confusing people about the real purpose of his visit by preventing them from grasping his main points fully. He may even offend them or give them the impression that he is not very serious. There are acceptable variables in any formal social or political procedure, but the stranger, like the person learning a new language, is better off making sure he knows how to operate first according to the rules; he can then start experimenting with variables. In initial contacts, the established rules should be closely observed.

The following procedures for meeting and talking to village elders for the first time are almost universally observed in Gambian villages, regardless of tribe. If visitors follow suitable basic procedures, the elders will keep the situation under control, and events should fall into place.

Before the SWMU team even starts for the village, they should decide who is leader and spokesman among themselves. He should do almost all the talking.

This is the way the Gambians do it, and it is an excellent device for introducing clarity into the discussion and for keeping things going in a straight line. They should also understand and make sure the AA understands that he is the main spokesman for the group. He should be thoroughly briefed beforehand about what the group hopes to accomplish. They should agree beforehand on what each person is going to say. It is essential that the villagers should see the visitors as coming to them through the AA, who is the man in charge of agriculture in that district. Therefore the AA should play a leading role.

When the team arrives in the village, they should go straight to the Alkali's compound and present themselves to him, or, in his absence, to his legitimate successor and spokesman. The AA should state that they have come to talk with the Alkali and the elders, and briefly explain the aim of the mission, finishing with a request for an audience. To trigger off the right chain of responses and actions, this preliminary visit to the Alkali must be made immediately. The party should not allow themselves to be diverted, even for a few minutes, from the immediate accomplishment of this mission. There will be plenty of time later to talk to people, look around, ask questions, take pictures, or do anything else that is incidental to the main goal. To do anything else will merely confuse people about what the visitors want, and may even cast doubts about their seriousness.

As soon as the visitors are seated with the Alkali, the AA may begin to outline some of the things the visitors want, for the Alkali's information only. The Alkali may listen, but he will probably ask that the visitors wait to begin the discussion until a sufficient number of elders have arrived. If he makes this request, the visitors should sit quietly during this interval, observing, talking quietly among themselves, or chatting with the elders who are already present and who may politely engage them in casual conversation through the interpreter. No business should be brought up. The atmosphere conveyed by the group should be quiet, friendly but not jovial, relaxed and unhurried. Traditional villagers set a very high value on quiet, formal behavior between responsible people who do not know one another very well.

The wait is not usually long. Almost as soon as the car arrives, the elders will automatically

begin turning up at the Alkali's place, since a car usually means official business, and official business is their business. However, some people may be in the field or further away or may have to be notified. This is a very good time for the group to orient itself, and the AA might even be able to identify certain people by name and indicate their relative position and status in the village.

As soon as sufficient people have arrived, the Alkali will say that things can begin. He will announce the arrival of the group, and state briefly what they have come for. If he has been given a preliminary outline of the purpose, he may choose to summarize that as well; but it is more likely that he will ask the AA to do so. The AA should state what the visitors plan to do, why, how the villagers are involved, and exactly what they are expected to do. Addressing the Alkali the AA can then introduce the visitors, and let them explain in more detail what their role will be. When they have finished, the AA should summarize what has been said.

At this point, the Alkali will probably choose to answer, but if he thinks someone else in the group knows more about the subject at hand than he does, he may designate that person as spokesman. He may choose to open the floor to discussion, asking the others to give their opinion. It would be well to observe the sequence of speakers, and to ask the AA as soon as is possible after the meeting who they are, for this is often a cue to the power structure and relationships within the village. Open discussion generally precedes by seniority, but prestige and a local reputation for knowledge and good sense and eloquence also count very highly.

Once all points have been clarified to everyone's satisfaction, and the situation finally summarized by the AA and the Alkali, the Alkali will close off discussion. If an excursion to the fields or elsewhere has been requested, a time will be arranged for that, usually immediately.

As soon as the visitors have accomplished the main object of their visit, the AA should give formal thanks for the elder's time and attention on behalf of his party, and state briefly what the group's schedule is, mentioning again any plans that have been made with the

elders about when they plan to be back. The Alkali or his spokesman will then respond, on behalf of the elders, repeating what the elders have agreed to do. If the party has been to the field between the first meeting and the final closing, they may wait until they get back to the village and to the original meetingplace in order to do this, unless they need to leave directly from the field for some urgent reason. After the meeting has broken up, the visitors are free to go, or they may then state any desire to look around or take pictures, etc. These sorts of requests should be made outside of and after the meeting unless they are directly related to the main purpose of the visit. But if the party plans to remain in the village for a little while, they should call back to the Alkali's compound on their way out to tell him they are going.

The procedures outlined above are not difficult. At any point, if the group spokesman is not sure about the protocol of a certain move, he can check with the AA, who will almost certainly know. The AA is a valuable resource of information for both the visitors and the villagers. An experienced AA will take charge of nearly everything. But it is essential for the visiting experts to arm themselves with as much knowledge of village social and political procedures as they can before going to the village, particularly if the AA is young or inexperienced and appears to be overawed by them. Unless the inexperienced AA is given a fairly specific directive to take the lead and even to coach the SWMU team on specific points, he may be reluctant to guide or correct people so much his senior in age and status. Therefore the visitors must know what the AA's role should be, and be ready to help an inexperienced AA learn his role, even while they are in the process of finding their own. They need to take the AA into their confidence, and make him a part of their team. They have to let him know exactly what they expect him to do and why it is so important to the success of the project. The AA must know at least as much about the plan as the people he is working with. If he knows what his inputs are to be he will feel less reluctance to speak out. But, like the village elders, he has to know exactly what is expected of him before he can be of maximum assistance.

b) Later Approaches

Once the first, most difficult, approach

has been made and the elder's cooperation has been promised, subsequent visits should be easier. The first few visits after the preliminary meeting are likely to take very much the same form and to proceed at more or less the same pace as the first one, in order to agree on exactly what must be done. Once all the agreements are made between the team and the elders, and once the specific jobs related to the project have started in the village, the formal meetings will be dispensed with. Each time the team, or any member of it, arrives in the village to do a specific job subsequently, he should call briefly by the Alkali's place to let him know that he has come and what he plans to do that day, but it is quite informal and need not take long. Any desire by any elder to accompany him on his rounds to see what is going on should be encouraged and welcomed. He should see the Alkali again upon his departure and indicate approximately when he expects to be back.

The precise point at which the need for formal meetings ceases will become clear in the process of negotiations. Both the Alkali and the AA will know, and even may say so, and the team themselves will sense it. Things evolve at their own pace. If the team members wait quietly and watchfully, learning all they can about procedures and relationships from the AA, they will find this to be a very useful time. The signals come through more clearly and their meaning is easier to decipher if one is in a relaxed, receptive frame of mind.

The SWMU team will probably feel under some pressure by the knowledge that they are scheduled to cover a set number of villages organized within a certain number of years; American planners and administrators tend to set themselves arbitrary quotas to be fulfilled within a certain timeframe. Although such goals look good in a project planning document and may be useful as a general guide, the team must bear in mind that the Gambian village structure and the farmers themselves are not goal/deadline oriented, and will not become so in the foreseeable future.

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Ministry of Agriculture, &
Natural Resources,
The Quadrangle,
Banjul, The Gambia.

Ref: MA/3854/(153)

30th May, 1977.

Sir,

SOIL AND WATER MANAGEMENT UNIT

Following the discussions we had in my office on the above mentioned subject, I am now formally applying for assistance from the US AID to help the Government of The Gambia in the establishment of a Soil and Water Management Unit within the Ministry of Agriculture and Natural Resources.

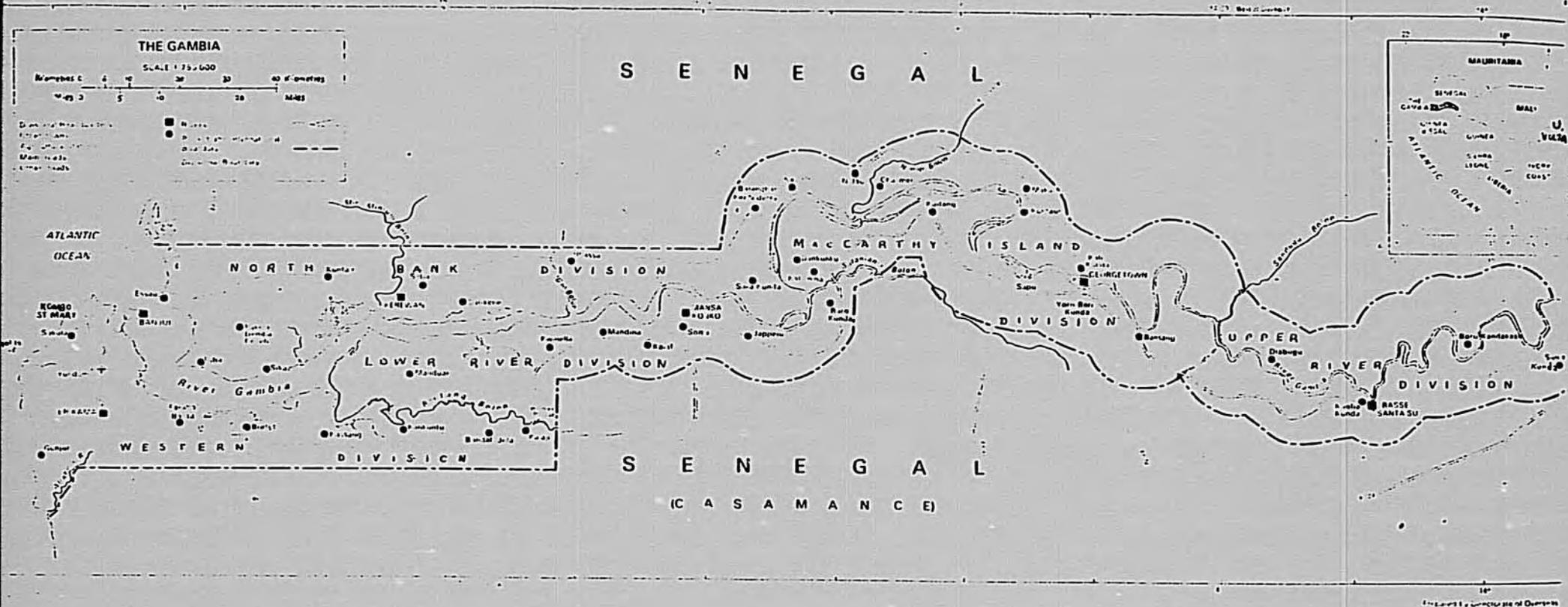
As you may know, the Gambia's only significant natural resource is its non-renewable agricultural land which provides work directly or indirectly for 85% of the people of this country. As such this natural resource, which is vital to the people of The Gambia, should be rationally exploited to ensure that this resource base does not deteriorate to the point where it becomes irreversibly destroyed. This of course calls for programmes aimed at arresting and reversing the progressive deterioration of this resource base. The Gambia Government is determined to develop a sound and comprehensive programme in soil and water management to serve as an essential underpinning to the several interrelated programmes for improving the lot of the rural population through increased agricultural production. However, due to the Gambia's limited financial and manpower resources, long-term assistance in the establishment of this unit will be required from other sources. We have already intimated to the US AID, our desire to be assisted in this area and the USAID have responded promptly ^{our} request by conducting a review of our request for assistance in the establishment of a soil and water management unit. Now that the review is completed, the Gambian Government is anxious to establish this unit. It would, therefore, be highly appreciated if our application for assistance from the USAID could be processed as quickly as possible to enable us to establish the unit in the shortest possible time.

I am also forwarding under cover of this letter quite a large number of drawings for Government's Senior Staff Quarters, giving you a wide range of choice, for your study. In all, I am forwarding seven copies of drawings numbered as follows:-

Drawing No	-	2724
"	"	2470/13
"	"	2507/2
"	"	2826

750,000

LOCATION MAP



6C(1) - COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Security Supporting Assistance funds.

A. GENERAL CRITERIA FOR COUNTRY

1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in consistent pattern of gross violations of internationally recognized human rights? Yes

2. FAA Sec. 481. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? No

3. FAA Sec. 620(a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba? No. The Gambia has no aircraft or international cargo ships under it's flag.

4. FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? Yes. The Gambia has a democratically elected form of government.

5. FAA Sec. 620(c). If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government? No

6. FAA Sec. 620(e) (1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? No. Never

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- A
7. FAA Sec. 620(f); App. Sec. 108. Is recipient country a Communist country? Will assistance be provided to the Democratic Republic of Vietnam (North Vietnam), South Vietnam, Cambodia or Laos? No. No assistance will be provided to the countries listed.
 8. FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression? No. The Gambia has no military forces.
 9. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property? No.
 10. FAA Sec. 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason? No.
 11. FAA Sec. 620(o); Fishermen's Protective Act, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,
 - a. has any deduction required by Fishermen's Protective Act been made? No. No seizure, sanctions or penalty has ever been imposed against U.S. fishing activities within international waters.
 - b. has complete denial of assistance been considered by AID Administrator? No. ~~Never.~~
 12. FAA Sec. 620(q); App. Sec. 504. (a) Is the government of the recipient country in default on interest or principal of any AID loan to the country? (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds, unless debt was earlier disputed, or appropriate steps taken to cure default? No. No AID loan has ever been made to The Gambia.
 13. FAA Sec. 620(s). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).) None. The Gambia has no military forces.

- A
14. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? No. Never
15. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? UN obligation's are in arrears for part of 1975 and all of 1976, and 1977. However Gambia advanced the UN \$300,000 in 1977 to cover funding shortfalls. Arrearages will be paid from this advance.
16. FAA Sec. 620A. Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism? No. Never.
17. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA? No.
18. FAA Sec. 669. Has the country delivered or received nuclear reprocessing or enrichment equipment, materials or technology, without specified arrangements on safeguards, etc.? No. The Gambia has no nuclear processing or enrichment capabilities.
19. FAA Sec. 901. Has the country denied its citizens the right or opportunity to emigrate? No.

B. FUNDING CRITERIA FOR COUNTRY

1. Development Assistance Country Criteria

a. FAA Sec. 102(c), (d). Have criteria been established, and taken into account, to assess commitment and progress of country in effectively involving the poor in development, on such indexes as: (1) small-farm labor intensive agriculture, (2) reduced infant mortality, (3) population growth, (4) equality of income distribution, and (5) unemployment:

b. FAA Sec. 201(b)(5), (7) & (8); Sec. 208; 211(a)(4), (7). Describe extent to which country is:

- (1) Making appropriate efforts to increase food production and improve means for food storage and distribution.
- (2) Creating a favorable climate for foreign and domestic private enterprise and investment.

Yes. The GOTG 1975-80 Five Year Development Plan, emphasizes agricultural development, redress of the urban-rural income imbalance and rural development. Budget resources, manpower-development, credit inputs are directed towards improving incomes for 85% of the rural population. Health, infant mortality, family planning are all receiving major emphasis under these priorities.

The GOTG's national goal is to achieve food self-sufficiency by 1980. Programs for improved cereal grains, livestock production disease control, rangeland improvements are receiving major emphasis. Food distribution and storage are also an integral part.

The GOTG encourages both domestic and foreign private enterprise and investment through tariff concession, positive tax structures, concessionary loans and profit repatriation.

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- (3) Increasing the public's role in the developmental process. One of the fundamental themes of the development plan is self-reliance, and involvement of the public in the development process.
- (4) (a) Allocating available budgetary resources to development. 4. (a) The GOTG has budgeted 35% of its resources over the next 5 years in agriculture and animal health, forestry, fisheries, mineral resources, education and health.
- (b) Diverting such resources for unnecessary military expenditure and intervention in affairs of other free and independent nations. (b) There are no military forces in The Gambia and it has good relations with other nations.
- (5) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise. 5. The Gambia is democratic in all respects. It's land tenure system is equitable in that all persons have access to land that ask for it. The Gambia is expressly committed to readdress urban-rural disparities and is directing its resources to improving the quality of life for the rural population. Politically The Gambia is a multi-party system that encourages participation in the political process. Individual freedom and freedom of the press are fundamental rights of the country's citizens.
- (6) Otherwise responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures. 6. The Gambia, since independence in 1967 has dedicated itself to the betterment of its citizens lives through government policies and actions that permit the fullest participation of the people in governing processes. Fullfillment of these principles is ^{also} predicated on self-help through rural development and budgetary resources.
- c. FAA Sec. 201(b), 211(a). Is the country among the 20 countries in which development assistance loans may be made in this fiscal year, or among the 40 in which development assistance grants (other than for self-help projects) may be made?
- d. FAA Sec. 115. Will country be furnished, in same fiscal year, either security supporting assistance, or Middle East peace funds? If so, is assistance for population programs, humanitarian aid through international organizations, or regional programs?
2. Security Supporting Assistance Country Criteria
- a. FAA Sec. 502B. Has the country engaged in a consistent pattern of gross violations of internationally recognized human rights? Is program in accordance with policy of this Section? c. Yes
- b. FAA Sec. 531. Is the Assistance to be furnished to a friendly country, organization, or body eligible to receive assistance? d. No.
- c. 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? 2. (a) N/A
(b) N/A
(c) N/A