

635-0205

GAMBIA

FORESTRY PROJECT

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FY79

A.I.D. Project Number 635-0205

PROJECT

GRANT AGREEMENT

BETWEEN

THE REPUBLIC OF THE GAMBIA

AND THE

UNITED STATES OF AMERICA

FOR

FORESTRY

Fiscal Data:
Appropriation: 72-11X1012
Attachment: 812-52-635-00-69-91

DATED: August 30 1979

PROJECT GRANT AGREEMENT

Dated: _____ 1979

Between:

THE REPUBLIC OF THE GAMBIA (GRANTEE)

And:

THE UNITED STATES OF AMERICA, Acting through the
Agency for International Development ("A.I.D.")

Article 1: The Agreement

The purpose of this Agreement is to set out the understandings of the parties named above ("Parties") with respect to the undertaking by the Grantee of the Project described below, and with respect to the financing of the Project by the Parties.

Article 2: The Project

Section 2.1--Definition of the Project. The Project, which is further described in Annex 1, will consist of five component activities designed to increase the efficiency and utilization of wood in The Gambia. These activities will consist of:

- (1) A production component, under which new plantations of fast-growing species will be established to support the Gambia's ongoing program of establishing large-scale plantations and a pilot program will be undertaken to integrate tree planting into the economic life of rural areas. The objective of this component is to add 1300 has. of fast-growing species to The Gambia's current wood resources and to determine the feasibility of providing a small supply of wood products within easy reach of villages through the establishment of village woodlots.
- (2) A utilization component, under which new logging and milling equipment will be purchased and installed at the Forestry Department's Nyambi Utilization Unit and hand saws and maintenance equipment and training will be provided to villagers participating in the woodlot programs. The objective of this component is to improve utilization of wood products by increasing the output of sawn timber by 30% and to determine the acceptability of hand saws by villagers and their value in reducing waste of wood resources at the village level.
- (3) An outreach component, under which a media campaign and extension program will be conducted concerning establishment, management and utilization of trees, woodlands, woodlots, and village plantings. The objective of this component is to sensitize villages participating in the woodlot program and the general public on the harmful effects of brush fires, impact of forests and other tree plantings on fertility and crop production, and to instruct them on organization and

- (4) A training component, under which personnel of the Forestry Department of the Ministry of Agriculture and Natural Resources will be trained in the establishment and management of village and large-scale plantations, village level and commercial scale wood utilization, and techniques of forestry extension and village outreach. The objective of this component is to provide long- and short-term training to Forestry Department personnel at both U.S. and African institutions.
- (5) A technical assistance component, under which a study will be conducted of the technical, economic and social feasibility of exploiting mangroves; and short-term consultants will provide technical assistance to the Forestry Department in connection with the production and utilization components. The objective of this component is the development of a recommended course of action for mangrove exploitation for consideration by GOTG based on an analysis of the alternative approaches, the costs, benefits, social and environmental consequences of each, and the identification of sources of financing for required capital investments; and to provide to GOTG the assistance required to develop a management plan for the new plantations to be established under the project, to develop plans and specifications for the new sawmill operation, and to develop more efficient methods for production, operation and maintenance of the Nyambai sawmill.

Annex 1, attached, amplifies the above definition of the Project. Within the limits of the above definition of the Project, elements of the amplified description stated in Annex 1, may be changed by written agreement of the authorized representatives of the Parties named in Section 8.2, without formal amendment of this Agreement.

Article 3: Financing

Section 3.1--The Grant. To assist the Grantee to meet the costs of carrying out the Project, A.I.D., pursuant to the Foreign Assistance Act of 1961, as amended, agrees to grant the Grantee under the terms of this Agreement not to exceed One Million Five Hundred Seventy-Five Thousand United States ("U.S.") Dollars (\$1,575,000) ("Grant").

The Grant may be used to finance foreign exchange costs, as defined in Section 6.1, and local currency costs, as defined in Section 6.2, of goods and services required for the Project.

Section 3.2--Grantee Resources for the Project.

(a) The Grantee agrees to provide or cause to be provided for the Project all funds, in addition to the Grant, and all other resources required to carry out the Project effectively and in a timely manner.

(b) The resources provided by Grantee for the Project will be not less than the equivalent of U.S.\$233,329, including costs borne on an "in-kind" basis.

Section 3.3--Project Assistance Completion Date.

(a) The "Project Assistance Completion Date" (PACD), which is December 31, 1984, or such other date as the Parties may agree to in writing, is the date by which the Parties estimate that all services financed under the Grant will have been performed and all goods financed under the Grant will have been furnished for the Project as contemplated in this Agreement.

(b) Except as AID may otherwise agree in writing, AID will not issue or approve documentation which would authorize disbursement of the Grant for services performed subsequent to the PACD or for goods furnished for the Project, as contemplated in this Agreement, subsequent to the PACD.

(c) Requests for disbursement, accompanied by necessary supporting documentation prescribed in Project Implementation Letters are to be received by AID or any bank described in Section 7.1 no later than nine (9) months following the PACD or such other period as AID agrees to in writing. After such period, AID, giving notice in writing to the Grantee, may at any time or times reduce the amount of the Grant by all or any part thereof for which requests for disbursement, accompanied by necessary supporting documentation prescribed in Project Implementation Letters, were not received before the expiration of said period.

Article 4: Conditions Precedent to Disbursement

Section 4.1--First Disbursement. Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID a statement of the name of the person holding or acting in the office of the Grantee specified in Section 8.2, and of any additional representatives, together with a specimen signature of each person specified in such statement.

Section 4.2--Additional Disbursement.

(a) Prior to the first disbursement of funds under the Grant for procurement of commodities and equipment, or to the issuance by AID of documentation pursuant to which disbursement will be made with respect thereto, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID:

- (1) A detailed listing of specifications for the commodities or equipment to be procured;
- (2) For equipment or commodities to be purchased in the U.S., an executed contract with a procurement services agent acceptable to AID for the purchase of such commodities or equipment on behalf of the Grantee; and
- (3) An executed contract for such commodities and equipment.

(b) Prior to the first disbursement of funds under the Grant for each construction activity or to the issuance by AID of any documentation pursuant to which disbursement will be made thereto, the Grantee shall furnish to AID the following, in form and substance satisfactory to AID:

- (1) Detailed plans, specifications and construction schedules with respect to such activity (see Section 3.2 of Annex 2 hereto);
- (2) A description of the arrangements made for providing construction services for such activity, including an executed contract for construction services with a firm acceptable to AID unless such services are being provided by force account; and
- (3) A description of the arrangements made for providing engineering supervisory services for such construction activity, including an executed contract with a firm satisfactory to AID unless such services are being provided by agencies of the Grantee.

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Section 4.3--Notification. When AID has determined that the conditions precedent specified in Sections 4.1 and 4.2 have been met, it will promptly notify the Grantee.

Section 4.4--Terminal Dates for Conditions Precedent.

(a) If all the conditions specified in Section 4.1 have not been met within 30 days from the date of this Agreement, or such later date as AID may agree to in writing, AID, at its option, may terminate this Agreement by written notice to the Grantee.

(b) If all the conditions specified in Section 4.2(b) have not been met within 25 months from the date of this Agreement, or such later date as AID may agree to in writing, AID, at its option, may cancel the then undisbursed balance of the Grant, to the extent not irrevocably committed to third parties, and may terminate this Agreement by written notice to the Grantee.

Article 5: Special Covenants

(a) The Parties agree to establish an evaluation program as part of the Project. Except as the Parties otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter:

- (1) evaluation of progress toward attainment of the objectives of the project;
- (2) identification and evaluation of problem areas and constraints which may inhibit such attainment;
- (3) assessment of how such information may be used to help overcome such problems; and
- (4) evaluation, to the degree feasible, of the overall development impact of the project.

(b) The Grantee agrees to ensure that women and other social groups such as youth, are provided the opportunity to participate in the labor and benefits associated with the woodlot program.

(c) The Grantee will ensure that Gambians who receive the training financed under the project in the United States or third countries shall, upon completion of such training, be employed by the Forestry Department in the Ministry of Agriculture and Natural Resources in positions related to this project for which they have received such training.

Article 6: Procurement Source

Section 6.1--Foreign Exchange Costs. Disbursements pursuant to Section 7.1 will be used exclusively to finance the costs of goods and services required for the Project having their source and origin in countries included in AID Geographic Code 941 (as in effect at the time orders are placed or contracts entered into for such goods or services) ("Foreign Exchange costs"), except as AID may otherwise agree in writing, and except as provided in the Project Grant Standard Provisions Annex, Section C.1(b) with respect to marine insurance. Ocean transportation costs will be financed under the Grant only on vessels under flag registry of the United States or The Gambia, except as AID may otherwise agree in writing.

Section 6.2--Local Currency Costs. Disbursements pursuant to Section 7.2 will be used exclusively to finance the costs of goods and services required for the Project having their source and, except as AID may otherwise agree in writing, their origin in The Gambia ("Local Currency Costs"). To the extent provided for under this Agreement, "Local Currency Costs" may also include the provision of local currency resources required for the Project.

Article 7: Disbursement

Section 7.1--Disbursement for Foreign Exchange Costs.

(a) After satisfaction of conditions precedent, the Grantee may obtain disbursements of funds under the Grant for the Foreign Exchange Costs of goods or services required for the Project in accordance with the terms of this Agreement, by such of the following methods as may be mutually agreed upon:

(1) by submitting to AID, with necessary supporting documentation as prescribed in Project Implementation Letters, (A) requests for reimbursement for such goods or services, or, (B) requests for AID to procure commodities or services in Grantee's behalf for the Project; or

(2) by requesting AID to issue Letters of Commitment for specified amounts (A) to one or more U.S. banks, satisfactory to AID, committing AID to reimburse such bank or banks for payments made by them to contractors or suppliers, under Letters of Credit or otherwise, for such goods or services, or (B) directly to one or more contractors or suppliers, committing AID to pay such contractors or suppliers for such goods or services.

(b) Banking charges incurred by Grantee in connection with Letters of Commitment and Letters of Credit will be financed under the Grant unless Grantee instructs AID to the contrary. Such other charges as the Parties may agree to may also be financed under the Grant.

Section 7.2--Disbursement for Local Currency Costs.

(a) After satisfaction of conditions precedent, the Grantee may obtain disbursements of funds under the Grant for Local Currency Costs required for the Project in accordance with the terms of this Agreement, by submitting to AID, with necessary supporting documentation as prescribed in Project Implementation Letters, requests to finance such costs.

(b) The local currency needed for such disbursements may be obtained:

(1) by acquisition by AID with U.S. Dollars by purchase;

(2) by AID (A) requesting the Grantee to make available the local currency for such costs, and (B) thereafter making available to the Grantee, through the opening or amendment by AID of Special Letters of Credit in favor of the Grantee or its designee, an amount of U.S. Dollars equivalent to the amount of local currency made available by the Grantee, which dollars will be utilized for procurement from the United States under appropriate procedures described in Project Implementation Letters.

The U.S. dollar equivalent of the local currency made available hereunder will be, in the case of subsection (b)(1) above, the amount of U.S. dollars required by AID to obtain the local currency, and in the case of subsection (b)(2) above, an amount calculated at the rate of exchange specified in the applicable Special Letter of Credit Implementation Memorandum hereunder as of the date of the opening or amendment of the applicable Special Letter of Credit.

Section 7.3--Other Forms of Disbursement. Disbursements of the Grant may also be made through such other means as the Parties may agree to in writing.

Section 7.4--Rate of Exchange. Except as may be more specifically provided under Section 7.2, if funds provided under the Grant are introduced into The Gambia by AID or any public or private agency for purposes of carrying out obligations of AID hereunder, the Grantee will make such arrangements as may be necessary so that such funds may be converted into currency of The Gambia at the highest rate of exchange which, at the time the conversion is made, is not unlawful in The Gambia.

Article 8.1: Miscellaneous.

Section 8.1--Communications. Any notice, request, document, or other communication submitted by either Party to the other under this Agreement will be in writing or by telegram or cable, and will be deemed duly given or sent when delivered to such party at the following addresses:

To the Grantee: Permanent Secretary

Mail Address: Ministry of Agriculture and Natural Resources
Banjul, The Gambia

To A.I.D.:

Mail Address: AID Representative
U.S. Embassy
Banjul, The Gambia

Alternate address for cables: AMEMBASSY BANJUL

All such communications will be in English, unless the Parties otherwise agree in writing. Other addresses may be substituted for the above upon the giving of notice. The Grantee, in addition, will provide the USAID Mission with a copy of each communication sent to AID.

Section 8.2--Representatives. For all purposes relevant to this Agreement, the Grantee will be represented by the individual holding or acting in the office of Permanent Secretary, Ministry of Agriculture and Natural Resources and AID will be represented by the individual holding or acting in the office of AID Representative/Banjul, each of whom, by written notice, may designate additional representatives for all purposes other than exercising the power under Section 2.1 to revise elements of the amplified description in Annex 1. The names of the representatives of the Grantee, with specimen signatures, will be provided to AID, which may accept as duly authorized any instrument signed by such representatives in implementation of this Agreement, until receipt of written notice of revocation of their authority.

Section 8.3--Standard Provisions Annex. A "Project Grant Standard Provisions Annex" (Annex 2) is attached to and forms part of this Agreement.

IN WITNESS WHEREOF, the Republic of The Gambia and the United States of America, each acting through it's duly authorized representative, have caused this Agreement to be signed in their names and delivered as of the day and year first above written.

THE REPUBLIC OF THE GAMBIA

By: J. Daffeh /s/

Title: Minister of Agriculture

UNITED STATES OF AMERICA

By: James D. Phillips

Title: Charge' d'Affaires
American Embassy
Banjul, The Gambia

PROJECT DESCRIPTION

I. GENERAL BACKGROUND

The bulk of the forested area in The Gambia can be described as Savanna Woodland with grass and shrub understories, while the moister southwest is described as Forest Savanna Mosaic or Sudano-Guinea Forest Savanna. This area contains some species that are characteristic of Forest rather than Savanna-Woodland eco-types. Also, along the Gambia River and its tributaries to the maximum limits of salt water intrusion 240 km upstream there are pure strands of tall mangrove, Rhizophora racemosa.

Nearly all of The Gambia was fairly heavily wooded and forested until the beginning of the 20th century. Clearing for agriculture was of limited extent and the long fallow periods that were involved did not lead to a depletion of the forest resources over the area which is now The Gambia.

However, with the six-fold increase of people and cattle since 1900, the forest resource has been heavily depleted. By 1968, based on an aerial survey of land cover, the forest was reduced to about 46% of the total land area, or 471,745 ha.

Although no reliable estimate of forest and woodlands has been made since 1978, all indicators point towards a continued depletion of the forest resource. These indicators include: increasing demands for forest products from the growth in population; increasing clearing of forest areas for shifting agriculture; continued damage of wooded areas as a result of uncontrolled fires started in order to prepare land for grazing and cultivation; soil desiccation and wind and water erosion; and the area's increasing vulnerability to drought. Using the best available information, it appears that the forest resource in The Gambia will be completely exhausted within the next 16 years if the population continues to expand at the present rate of 2.8% per annum, if there is no increase in the rate of reforestation or natural forest regeneration, and if per capita wood consumption levels do not decline.

Presently, most Gambians rely on the forest for fuel and building materials. Firewood accounts for about 75% of the wood used. Firewood is used mainly by the rural population and is gathered daily by villagers who, in many instances, must now travel two to four hours to gather wood. Also, several licensed dealers fell and transport firewood in bundles for sale in large rural villages and towns. Another 15% of the wood is used to make charcoal. The remaining use of wood is mainly for building and fencing materials. Machine-sawn timber is used primarily by the urban and suburban population. Official statistics indicate that 75% of the needs for sawn timber are met by imports, although the government sawmill does manufacture approximately 900 m³ of lumber per annum. A very small number of pitsawyers in the rest of the country saw some K. Senegalensis and Chlorophora Regia for rural use.

The rural population uses quite a lot of hewnwood for construction. People cut their own wood and rough saw and hew it with adzes to the desired size. Roughly half of the dressed wood used in The Gambia is rough hewn.

Rhun palm is also often used both in urban and rural areas as a building material. Because of the lack of other sources of sawn material in most areas, rhun palm is presently in very short supply. The very rapid rate of depletion of the rhun palm caused it to be declared a protected species in the 1950s, a classification which the Government of The Gambia (GOTG) confirmed in recent legislation.

Forestry in The Gambia is very young, starting in 1951 with the formation of a Forestry Division in the Department of Agriculture within the Ministry of Agriculture and Natural Resources. The first Gambian educated to the masters level in forestry graduated from Duke University in 1978. However, other Gambians have received technical training in forestry in England and Nigeria.

All exploitation of forest products is controlled and licensed by the Forestry Inspectorate of the Forestry Department. The current forestry law was written in 1977, requires licensing of all commercial forest exploitation, and gives the Department full authority to control such activities anywhere in the country. The regulations also include a list of protected species which may not be felled if they are under certain size and rules for control of bush fires. Although the law is adequate, the material and financial resources to ensure its enforcement are at the present less than satisfactory. For example, Forest Guards and Scouts generally do not have the mobility necessary for adequate surveillance of the reserved areas for which they are responsible.

The Government of The Gambia has established 66 forest reserves covering 34,027 ha., or 3.2% of the country. Management of these areas has generally been limited, although over 1,000 ha. of Gmelina arborea plantations have been established in forest parks within the Western Division.

Last year the GOTG began an annual National Tree Planting Festival in the first week of July. About 250 thousand seedlings were distributed for planting along roads and in compounds and fields throughout the country by the Forestry Department. Survival rates are not yet known.

II. PROJECT STRATEGY AND PURPOSE

The central fact to be retained from the general description of the Gambian forestry sector in the proceeding paragraphs is that, based on available data concerning the rates of wood production and utilization in The Gambia and given no change in those rates, the forest resources there will be completely depleted within the next 15 years. Immediate action is critical yet, unfortunately, personnel, resources, and data do not presently exist which would enable The Gambia to undertake a major forestry sector project. This situation has attracted the attention of various donors whose efforts, taken singly and together, will contribute to the objective of preparing The Gambia for the scale and scope of forest sector activities required to meet its future needs for wood and wood products. The activities included in this project have all been designed to contribute to that objective by building on the resources which presently exist in The Gambia and by supplementing inputs supplied by other donors. The principal objective of the activities to be undertaken over the five-year period of this Project is to improve the efficiency of wood production and utilization in The Gambia, keeping in mind the constraints imposed by current availabilities of skilled personnel, resources, and technical data.

III. DETAILED DESCRIPTION OF PROJECT COMPONENTS

The Project will consist of the following five components:

1. A production component which will support The Gambia's ongoing program of establishing large-scale plantations to meet the needs of the urban and peri-urban populations and reduce pressure on less productive, fragile woodlands by the addition of 1,300 ha. planted in fast growing species. This component will also include a pilot program to integrate tree planting into the economic life of the rural population by establishing ten village woodlots.

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2. A utilization component which will be focused essentially on the Forestry Department's Nyambai Utilization Unit and will provide for purchase and installation of a small quantity of logging and milling equipment and complementary training programs in wood-cutting and utilization for the Utilization Unit staff. Hand saws, maintenance equipment, and complimentary training will also be supplied on an experimental basis to villagers participating in the woodlot program.
3. An outreach component which will involve preparation or purchase of films, slides, posters, flip charts, and radio programs in order to: (a) carry out a media campaign aimed particularly at the rural inhabitants and concerned with the vital economic and environmental importance of trees and woodlands; and (b) begin an extension program concerning establishment, management, and utilization of woodlots and other village plantings.
4. A training component which will add to the Forestry Department's pool of personnel skilled with respect to establishment and management of village and large-scale plantations, village level and commercial scale wood utilization; and techniques of forestry extension and village outreach.
5. A technical assistance component which will entail collection and analysis of data with respect to the technical, economic, and social feasibility of exploiting mangroves, a hitherto virtually untapped source of wood in The Gambia, as well as concerning social and economic aspects of wood production and utilization. Limited short-term technical assistance will also be financed in connection with the production and utilization components described below.

A. Production Component

The project has two production-oriented activities, establishment of large-scale plantations within the confines of existing forest parks and a pilot program to establish woodlots in ten villages.

(1) Plantation Establishment

The project will establish 1,300 has. of plantation in locations within approximately 56 kilometers south and to the east of Banjul along the Banjul-Mansa Konko Road. These areas are within the existing forest parks at Finto Manareg (1,000 has.) and Salagi (300 has.), which were chosen because of their ease of access and their proximity to the Banjul-Kombos-St. Mary area which is the principal concentration of demand in the country. Transportation costs in connection with establishing the plantations and marketing the produce thereof will, therefore, be minimized. Since the areas to be planted are within existing forest parks, establishment of the plantations will not involve displacement of food crop producers. Ample labor will be available from nearby villages.

The principal species which will be utilized for the plantation is the fast-growing Gmelina arborea. Gmelina is not susceptible to termites and, therefore, the need for use of pesticides such as dieldrin, required for plantations elsewhere in the Sahel, will be obviated. Gmelina can be sown directly, thereby eliminating the need for nurseries in the vicinity. Based on data collected at plantations established for some time in the area, Gmelina can be expected to yield between 15 and 20 cubic meters per annum.

One hundred and seventy-five hectares will be established in the first project year, two hundred and twenty-five hectares in the second year; two hundred and seventy five hectares in the third year, three hundred hectares in the fourth year and three hundred and twenty-five hectares in the fifth year. The Forestry Department will contract with local timber cutters to fell and remove trees and bushes from the sites. Seeds will be collected at conveniently located Gmelina plantations established elsewhere five or more years previously. Farmers from neighboring villages will sow the seeds at one meter by one meter intervals. In return for this labor and that involved in weeding, the farmers are permitted to plant food crops between the rows of seedlings. During the second year, the seedlings will be thinned to two meter by two meter spacing and weeded twice by labor obtained under contract from the villages. A final weeding is required during the third year.

The plantations will be fenced to protect them against domestic animals who find the tender Gmelina seedlings an irresistibly succulent dry-season browse; they will also be patrolled by a Forest Guard assigned for every 500 ha. or so after the farmers have removed their crops at the end of the first year. The plantations will be established in 25 ha. blocks between which there will be firebreaks 10 meters in width.

As noted above, Gmelina can be expected to yield between 15 and 20 cubic meters of wood per hectare. Of this yield, approximately 75% will be used directly as fuel or converted into charcoal, the remainder being used for poles and saw timber. The typical rotation will have a duration of approximately 15 to 20 years. Thinnings during the second, fifth, and tenth years will produce fuel-wood and, as the trees mature, poles for fencing, construction, and other uses. The harvest will occur during the fifteenth year, although a portion of the better trees will be preserved for harvest until the twentieth year to produce larger timber for construction.

AID-financed inputs to this activity will consist of the costs of plantation establishment and the second-year weeding for 1,300 ha. estimated to be \$671,495. These costs include the estimated cost of approximately 97,500m of barbed wire, the only commodity required for plantation establishment which will be imported from the U.S., and the local currency costs required for fence posts and labor costs.

Training and technical assistance to be provided under the project in support of the plantation establishment and discussed in separate sections below.

GOTC inputs to the plantation establishment will consist primarily of the value of the 1,300 ha. to be used and the portion of Forestry Department personnel costs which may be attributed to this activity. The personnel costs total approximately \$78,125 over the life of the project. The GOTC will also contribute \$11,590 to cover the costs of additional fire control. The value of the land was costed out at D.100 per hectare and, therefore, equals \$67,700.

(2) Pilot Woodlot Program

During the life of the project, the Forestry Department will undertake to work with ten villages in order to establish approximately 50 ha. of woodlots. This will have the nature of a pilot program designed to determine the technical, economic, and social feasibility of woodlots as a potentially attractive means to place a small supply of wood products within easy reach of villages.

The rate of establishment in each of ten villages has been tentatively planned as follows, but is subject to modification as circumstances warrant:

1st year:	Villages A & B, plant one hectare each	2
2nd year:	Villages A & B, plant two hectares each	4
	Villages C & D, plant one hectare each	2
3rd year:	Villages A & B, C, D, plant two hectares each	8
	Villages E & F, plant one hectare each	2
4th year:	Villages A,B,C,D,E,F, plant two hectares each	12
	Villages G & H, plant one hectare each	2
5th year:	Villages A-H, plant two hectares each	16
	Villages I & J, plant one hectare each	<u>2</u>
		50

This program is designed to meet the capacity of the small Gambian forestry and extension staffs, particularly during early years of the project when a number of staff members will be away for training.

The Forestry Department will establish woodlots during the first year in two villages: Illiasa, in the Upper Baddibui District, on the North Bank between Farafenni on the east and the Pakala Forest Park on the west; and Penjemu approximately 40 km from Banjul and south of Brikama in the Kombo Central District of the Western Division. The choice of these villages is based on the Forestry Department's previous contacts with the two villages and their expressed interest in participation. These villages are also close to nurseries which have been or are soon to be established.

The other eight villages will be selected as the project advances. Selection criteria which are firm include: expressed interest in participation, as indicated primarily by the willingness to allocate suitable land and labor; a clearly articulated method for organizing the labor and for distributing the eventual products of the woodlot; and relatively easy access to nurseries and the operational base of mid- to upper-level Departmental personnel, who will provide information and assistance to the villagers.

Fence posts and wire will be provided to participating villages free, as will be seeds and seedlings. For their part, the villagers will clear land, if necessary, construct the fences, and plant and tend the trees. The labor requirement is estimated to be on the order of one day per hectare per season from 75-100% of the adult male equivalents in the village, a requirement which is felt to be reasonable.

Species to be used will include Gmelina, neem (Azadirachta indica), cashew (Anacardium), and other fruit trees such as mango and citrus which are appropriate to the local soil and climatic conditions. It is hoped provision of these trees, plus the fencing materials, will constitute sufficient immediate incentive for villagers to perform the necessary work. If not, other incentives will be tried, most likely a meal for the labor force on work days, such as is traditionally offered in certain areas of The Gambia to communal work forces.

AID-financed inputs to the woodlot program consist of approximately 50,000m of barbed wire at an estimated cost of \$8,438 CIF Banjul and a portion of 1.3 million polyethelene sacks at an estimated cost of \$29,700 CIF Banjul for seedling production at the nurseries. The remaining portion of these sacks will be used in connection with the National Tree Planting Festival throughout The Gambia.

Other donors are providing inputs which will support the woodlot program. FAO and the BADEA will finance establishment of the nurseries as well as some operational costs. Vehicles financed by the FRG will assure mobility of Forestry Department personnel who will be active in promoting the program as well as timely distribution of seedlings, an operation which was the source of some difficulty during the 1978 Tree Planting Festival.

The fence posts used for the woodlots will be obtained by the Forestry Department from existing Gmelina plantations. The Forestry Department will also provide the seedlings. Should an incentive such as the traditional meal eventually be required in addition to those presently planned, the Forestry Department will also bear the costs thereof.

Training and extension equipment and materials which will indirectly support the woodlot program are described in separate sections below.

B. Utilization Component

An improved wood resource utilization program will be implemented under this project component. The program will consist of the purchase, delivery and installation of equipment required by the Forestry Department's Utilization Unit at Nyambai to more efficiently log and mill small diameter logs and maximize forest product recovery the training of Forestry Department personnel in appropriate technology and techniques for effective use of both the new and existing equipment; and an experimental program to provide hand saws, maintenance equipment and related training to villagers participating in the woodlot program.

The equipment to be financed by AID under the project includes one bolter saw with blower, log deck, lumber deck, and power unit; one lumber resaw and edger; one lumber planer; saw filing equipment and supplies; supplies for sawmill alignment; and three "Big stick" loaders and wood racks. The estimated delivered cost of this equipment is \$88,358. The bolter saw, resaw and edger, and planer will be housed in a covered pole frame shed with concrete pad which will be constructed as part of the project. The shed and pad will cover approximately 185 square meters and have an estimated construction cost of \$22,000.

The bolter saw is suitable for cutting small diameter, short logs, which are the principal product of the Gmelina plantations; it will also be suitable for sawing limbs and other topwood of trees such as the valuable Khaya Senegalensis which are presently wasted. The important characteristics of the bolter saw are that it produces straight-grained, high-quality lumber from crooked, low-quality trees and that it requires less log handling than does the much larger circular headsaw presently employed at Nyambai. The resaw and edger and the planer will contribute to greater productivity per man-day, a higher quality product, and conversion of material which is presently wasted or turned into low-value charcoal into short pieces suitable for local use in making furniture and other wooden household products.

The majority of logs sawn at the mill will be cut by licensed contractors in forest preserves within 60 km of Nyambai under Forestry Department supervision and will be brought by the Department to the mill.

The "Big-stick" loaders and wood racks will be purchased for use with the two Unimog logging trucks to be financed by the FRG. Their use will enhance the safety of lumber transport from the logging site to Nyambai and will increase labor productivity and lower operating costs by reducing the amount of time and number of trips required to move a given number of logs to the mill.

Use of the bolter saw to cut the annual harvest of Gmelina logs from the existing 1,250 ha. of plantation and to cut the annual harvest of Khaya Senegalensis, plus better maintenance of the present milling equipment is expected to result in increased output of sawn timber. This incremental output is estimated to be the equivalent to the annual harvest which could be obtained from 103 ha. of Gmelina if the entire stand produced trees which were suitable for sawing. Improved utilization, therefore, will translate directly into an extension of the forest resource.

The training and technical assistance activities related to the use of the new and existing equipment are described in a separate section below.

As an initial, experimental project, approximately 50 crosscut saws and 30 sets of sharpening guides and tools will be purchased and supplied to the villages participating in the village woodlot program. The GOTG will distribute these tools, train villagers in their proper use, and evaluate the problems associated with introducing proper hand tools for wood harvest and teaching needed skills and the acceptance of the tools by the villages as saving time, effort and resources.

C. Outreach Component

The outreach component of this project will have an impact on the village woodlot program and will also support the annual National Tree Planting Festival. Funds will be provided for purchase of Super-8 and 16mm films and for production of films, radio programs, posters, and other extension aids. These materials will be used by Forestry Department personnel to sensitize villages participating in the woodlot program and the general public with respect to such themes as the harmful effects of brush fires, impact of forests and other tree plantings on soil fertility and crop production, and how to organize, to establish and care for a woodlot, etc.

A limited number of appropriate films with soundtracks in Jula, Fula, Wollof, and Mandinka are presently available from SODEV, the Senegalese extension agency responsible for agricultural development in the Groundnut Basin of Senegal, and will be purchased from that source.

The Extension Aids Unit of the GOTG's Ministry of Agriculture and Natural Resources will be responsible for production of radio programs, films, graphics, and other materials to be used in connection with the woodlot program and the festival and will receive technical guidance from the Forestry Department in that regard.

The Extension Aids Unit, which is located in the same Ministry compound as the headquarters of the Forestry Department, has the staff necessary to produce the desired programs and materials. It has several mobile cinema vans which will be used to present films throughout the country. The project will finance purchase of one 16mm film editing machine required to complement the Unit's existing equipment and planned acquisitions.

The funds allocated for the purposes described above total \$8,243, including shipping and inflation.

The training in support of the outreach component is described in the following section.

D. Training Component

Training will be provided under the project in the following fields: silviculture including reforestation, thinning, and other practical application techniques; forest management at the administrative and field level; wood products utilization, including logging and sawmill management and maintenance; and forest economics. Under this component AID will finance the estimated cost of: 8 person-years training to the BS level for two candidates at a U.S. or African university; 2 person-years to the MS level for one candidate at a U.S. or African university; 7.5 person-years training at the Forestry Institute at Ibadan for five candidates; 45 person-months special technical training pertaining to wood products utilization in the U.S. for five candidates; and 9 person-months special academic training in the U.S. for one candidate in the field of extension communications to strengthen the outreach component and the village woodlot program.

The Forestry Department will select the candidates for this training with the approval of AID. In selecting trainees, priority will be given to qualified employees of the Forestry Department with some years working experience. Three candidates have already been identified for the special short-term technical training in wood products utilization and one candidate for the training in extension communications. It is anticipated that the Forestry Department will be able to provide candidates for the remaining slots over the life of the project either by drawing on its existing staff, as in the case of the undergraduate training in the U.S., or by recruiting secondary school graduates, as in the case of the diploma training in Nigeria.

The supplier of the sawmill equipment will be required, as part of the purchase contract, to furnish four weeks in-country training for the pertinent supervisory, operation, and maintenance personnel at the Nyambai Utilization Unit. In-country training will also be offered by the Chief of the Utilization Unit to field staff who will be responsible for training villagers participating in the woodlot program in the use and maintenance of hand saws. Further in-country training will be arranged for personnel such as Forest Guards and Scouts in such fields as nursery operation, reforestation, tree improvement, pest control, and utilization of forest products. This training will be given by senior staff of the Forestry Department or by expatriate advisors, for example, those connected with the Soil and Water Management Project or the forest inventory to be financed by the FRG. The short-term consultants financed by this project in forest management and forest products utilization will be expected to make training recommendations and to assist the Department to prepare a training plan.

E. Technical Assistance Component

During the project, the Forestry Department will develop and implement a management plan for the 1,300 ha. of Gmelina to be established under the Production Component of the Project and will be required to prepare plans and specifications for the new sawmill equipment and shed. Under this component of the Project, two short-term consultants (3 person-months each) will be financed to assist the Forestry Department with these tasks. A forest production and management consultant will

assist in the development of the management plan for the Gmelina plantations and will make follow-up visits focusing on revision of the plan as indicated by recent developments!

The forest products utilization consultant will make a preliminary visit to prepare final specifications for the sawmill and logging equipment to be procured and to assist the Chief of the Utilization Unit to plan the layout of the shed to shelter the new equipment. Periodic follow-up visits will review production records of the Utilization Unit, assist in identifying more efficient methods, and resolve operational and maintenance problems which may have arisen.

This component also includes the performance of a study of the technical, economic, and social feasibility of exploiting the mangrove resources of The Gambia. The study will examine questions of management, extraction, processing, and marketing with emphasis on the tall mangrove, Rizophora racemosa, in the pool area above the proposed bridge and anti-salinity barrage at Yelitenda.

The study will identify alternative approaches, analyze their respective benefits and costs, and their social, environmental and other effects, identify possible sources of financing for the capital investments required, and conclude with a recommendation of a particular course of action for the consideration of the Government of The Gambia.

The GOTG will contract with a university, firm or other organization for this study, which shall be carried out in a six-month period beginning approximately September, 1980, and ending approximately March, 1981. The anticipated level of effort for the study is 18 person-months distributed as follows:

- 4 months - utilization specialist
- 3 months - production/management
- 3 months - forest economist
- 2 months - anthropologist
- 2 months - industrial engineer
- 2 months - soils scientist
- 1 month - environmentalist
- 1 month - regional/rural planner

In performance of the study, the specialists shall work under the guidance of the Forestry Department of the Ministry of Agriculture and Natural Resources and shall also cooperate fully with all other Government Ministries and agencies. The Forestry Department will coordinate the Contractor's contacts with all other GOTG ministries, and will provide the contractor with office space, furniture and supplies, land transportation, secretarial support, and river transportation for viewing the mangrove resource. The estimated cost of this study which will be financed by AID is \$180,000.

IV. IMPLEMENTATION PLAN

The Permanent Secretary of the MANR, who has overall managerial responsibility for all externally-financed projects in the agricultural sector, will appoint a Project Officer for the Project to discharge this responsibility. In all likelihood, the Director of the Forestry Department will be appointed Project Officer for this Project

The Forestry Department manages its own budget under delegation of authority from the Permanent Secretary who also serves as the Ministry's Accounting Officer. The Department has its own accounting capacity and will also be backstopped by personnel in the Ministry's Central Accounting Section. Project funds will flow either through the Central Bank or through one of the two commercial banks in Banjul and will be deposited in a project-specific account. Project-specific books will be maintained within the Ministry's Central Accounting Section. Specific project disbursement procedures will be specified in project implementation letters.

Personnel of the Utilization Section of the Forestry Department will be responsible for operations at the Government-owned sawmill and lumberyard at Nyambai. The Afforestation Section will be responsible for carrying out the provisions of the five-year development plan which calls for new Gmelina plantings at an average annual rate of 300 hectares. This section will also be responsible for execution of the management plans for the existing forest parks. The Rural Forestry Inspectorate Section will be responsible for patrolling the forest reserves, organizing villagers to fight fires, licensing charcoal makers, and other wood exploiters controlling unauthorized felling, etc.

The Implementation Plan calls for establishment of 175 hectares of plantation during FY 1980 and 225 in FY 1981. The present staff of the Forestry Department will be able to handle this scale of operation easily. Additional staff with training from the Forestry Institute in Ibadan, University of Dar es Salaam, and elsewhere, who will come on board during the life of the project, will be provided to ensure adequate technical supervision of project activities as the scale and geographic dispersal of operations increase.

The GOTG will undertake responsibility for management of the following principal procurement actions: contracting with an educational institution, firm, or other organization for the mangrove feasibility study; arrangement of all short-term training to be conducted at the Forestry Institute in Ibadan, Nigeria and long-term training at other African institutions; procurement of U.S. source commodities and equipment through a procurement services agent (PSA); procurement of all shelf items and commodities of Gambian source and origin; contracting for required construction services; and acquisition of all local labor required for plantation establishment. On behalf of GOTG, AID will assume responsibility for acquiring the services of the short-term consultants in forest product harvesting and utilization and forest management and the arrangement of long- and short-term special technical and academic training in the United States. Further details regarding the conduct of these procurements will be specified in project implementation letters.

The planned implementation schedule for the project is attached hereto as Attachment 2.

PROJECT FINANCIAL PLAN

(Source and Application of Funding - \$000)

As of _____, 1979

Project Number 635-0205

AID Contribution - FY 79

<u>Project Inputs</u>	<u>Foreign Exchange</u>	<u>Local Currency</u>	<u>Total</u>
1. Plantation Establishment	16	655	671
2. Training	363	-	363
3. Commodities	130	8	138
4. Construction	-	22	22
5. Technical Assistance	<u>240</u>	-	<u>240</u>
6. Sub-Total	<u>749</u>	<u>685</u>	<u>1,434</u>
7. Contingencies - 10%	<u>74</u>	<u>67</u>	<u>141</u>
TOTAL	<u>823</u>	<u>752</u>	<u>1,575</u>

GOTG Contribution - Life of Project

1. <u>Plantation Establishment</u>	
A. Salaries	78.128
B. Additional Fire Control	11.589
C. Land	67.711
2. <u>Village Woodlots</u>	
A. Salaries	26.043
B. Fence Posts	20.834
C. Meals for Kafo Groups	5.208
3. <u>Support to Mangrove Study Team</u>	2.604
4. Contingencies at 10%	<u>21.212</u>
	<u>233.329</u>

1/ All budget items contain an allowance for inflation.

PLANNED IMPLEMENTATION SCHEDULE

<u>Event</u>	<u>Months from Project Start</u>	<u>Anticipated Actual Date</u>
1. Grant Agreement signed	0	9/79
2. General conditions precedent met	1.0	
3. Request for prequalification data for Mangrove Study and short-term consultancies mailed to CBD and BIFAD for publication	1.0	
4. PIO/P for short-term, special technical training submitted to AID/W	1.0	
5. Request for prequalification data published	2.0	
6. Contract for short-term technical training signed	2.0	
7. Final date for postmarking prequalification data	2.0	12/79
8. Contacts with villages initiated concerning participation in village woodlot program	3.0	
9. Contractor submits plan for short-term, special technical training to GOTG	4.0	
10. Land clearing for first year's plantation begins	4.0	
11. Short-list of organizations prequalified for Mangrove Study, etc., prepared	4.5	
12. Two villages selected to participate in village woodlot program	5.0	
13. RFTP mailed to prequalified organizations	5.0	
14. Candidate selected for training in Nigeri	5.0	
15. Clearing for village woodlots begins	5.5	
16. Fencing for first year's plantation begin	6.0	
17. Trainee departs for short-term special technical training in U.S.	6.5	

<u>Event</u>	<u>Months from Project Start</u>	<u>Anticipated Actual Date</u>
18. Fencing for village woodlots begins	6.5	
19. Seeding of first year's plantation begins	7.0	
20. Planting of village woodlots begins	7.0	
21. Final date for postmarking technical proposals for Mangrove Study, etc.	7.5	
22. Two candidates selected for BS training	8.0	
23. Contract for Mangrove Study, etc., awarded	9.0	
24. Initial PIO/P for training in Nigeria prepared	9.0	
25. Initial PIO/P prepared for 2 BS candidates and application process begins	10.0	
26. Contract for Mangrove Study, etc., negotiated, approved by AID, and signed	10.5	
27. Trainee departs for Nigeria	11.0	
28. Mangrove Study begins	12.0	9/80
29. Contacts initiated with new villages concerning participation in woodlot program	15.0	12/80
30. Draft final report of Mangrove Study submitted to GOTG for comment.	16.0	
31. Land clearing for second year's plantation begins	16.0	
32. First trainee, returns following special, short-term technical training in U.S.	16.0	
33. Forest Products Utilization Specialist arrives for short-term consultancy to prepare final equipment specifications	16.0	
34. GOTG selects purchasing agent and signs contract	16.0	
35. PIO/C for sawmill and logging equipment and accessories prepared	17.0	
36. Two new villages selected for woodlot program	17.0	

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<u>Event</u>	<u>Months from Project Start</u>	<u>Anticipated Actual Date</u>
37. Two candidates for training in Nigeria selected	17.0	
38. Clearing for village woodlots begins	17.5	
39. Final report for Mangrove Study submitted to GOTG	18.0	
40. AID/W issues letter of commitment to U.S. bank in connection with commodity procurement	18.0	
41. Fencing for second year's plantation begin	18.0	
42. Two trainees depart for short-term special technical training in U.S.	18.5	
43. Fencing for village woodlots begins	18.5	
44. Commodities ordered	19.0	
45. Planting for second year's plantation begins	19.0	
46. Planting begins for village woodlots	19.0	
47. Final plans and drawings for shed to house bolter saw complete	21.0	
48. IFB for construction of shed issued	21.5	
49. Two candidates for BS university training depart	22.0	
50. Bids for shed construction received	23.0	
51. Two candidates depart for training in Nigeria	23.0	
52. Contract awarded for shed construction	24.0	9/81
53. Contract for shed construction signed and approved by AID	25.0	
54. Commodities shipped	25.0	
55. Begin shed construction	26.0 (27.0)	12/81
56. Contacts initiated with new villages concerning participation in village woodlot program	27.0	

<u>Event</u>	<u>Months from Project Start</u>	<u>Anticipated Actual Date</u>
57. Construction shed completed	27.5	
58. Second group short-term technical trainees returns	27.5	
59. Installation equipment in shed begins	28.0	
60. Land clearing for third year's plantation begins	28.0	
61. Manufacturer of sawmill equipment begins training program	28.5	
62. Two new villages selected for woodlot program	29.0	
63. Two candidates selected for training in Nigeria	29.0	
64. Clearing for village woodlots begins	29.5	
65. Fencing for third year's plantation begins	30.0	
66. Bolter saw and accessory equipment fully operational	30.0	
67. Fencing for village woodlots begins	30.5	
68. Two trainees depart for special short-term technical training in U.S.	30.5	
69. Seeding for third year's plantation begins	31.0	
70. Planting for village woodlots begins	31.0	
71. Candidate selected for MS training at U.S. or African university	32.0	
72. PIO/P for MS candidate prepared and application process begins	34.0	
73. Candidates depart for training in Nigeria	35.0 (36.0)	9/82
74. Contacts initiated with villages concerning participation in woodlot program	39.0	12/82
75. PIO/T for mid-project evaluation prepared	39.0	
76. Land clearing for fourth year's plantation begins	40.0	

<u>Event</u>	<u>Months from Project Start</u>	<u>Anticipated Actual Date</u>
77. Two new villages selected to participate in woodlot program	41.0	
78. Clearing begins for village woodlots	41.5	
79. Evaluation team recruited	41.5	
80. Fencing begins for fourth year's plantation	42.0	
81. Mid-project evaluation begins	42.0	
82. Fencing begins for village woodlots	42.5	
83. Seeding for fourth year's plantation begins	43.0	
84. Planting begins for village woodlots	43.0	
85. Draft final report on mid-project evaluation prepared	43.0	
86. Final report on mid-project evaluation complete	44.0	
87. Candidate for MS training departs	46.0 (48.0)	9/83
88. Contacts initiated with villages concerning participation in village woodlot program	51.0	12/83
89. Land clearing begins for fifth year's plantation	52.0	
90. Two new villages selected to participate in woodlot program	53.0	
91. Clearing begins for village woodlots	53.5	
92. Fencing begins for fifth year's plantation begins	54.0	
93. Fencing begins for village woodlots	54.5	
94. Seeding begins for fifth year's plantation	55.0	
95. Planting begins for village woodlots	55.5 (60.0)	9/84
96. Final date for provision of goods and services under project *	61.0 (63.0)	12/84
97. Final date for AID disbursements under project*	67.0	

*With possible exception of residual long-term training to BS level.