PD-CAD 150

FILE

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER

PHILIPPINES

CLARK ACCESS ROAD AND FEEDER ROADS
(492-0348)

July, 1981

PHILIPPINES
CLARK ACCESS ROAD & FEEDER ROADS
PROJECT PAPER

No. 492-0348

Contents

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ABBREVIATIONS

A & E	Architecture and Engineering
ADB	Asian Development Bank
AID	Agency for International Development
CADF	Clark Area Development Fur
EIS	Environmental Impact Staten
ESF	Economic Support Funds
GOP	Government of the Philippine
MAC	Management Advisory Comm
MHS	Ministry of Human Settlemen
MPH	Ministry of Public Highways
OCD	Office of Capital Developmen
ORAD	Office of Rural and Agricultural Development
PP	Project Paper
SDA	Sacobia Development Authority
TARELCO	Tarlac Electrification Cooperative
USAID	United States AID Mission to the Philippines

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: A (A = Add, C = Change, D = Delete) — Amendment Number: _____ — DOCUMENT CODE: 3

2. COUNTRY/ENTITY: Philippines

3. PROJECT NUMBER: 492-0348

4. BUREAU/OFFICE: ASIA 04

5. PROJECT TITLE (maximum 40 characters): Clark Access Road and Feeder Roads

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 12 DD 31 YY 83

7. ESTIMATED DATE OF OBLIGATION (Under "B." below, enter 1, 2, 3, or 4)
A. Initial FY 81 B. Quarter 4 C. Final FY 81

8. COSTS ($000 OR EQUIVALENT $1 = ₱7.8)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. Total	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. Total
AID Appropriated Total						
(Grant)	( )	( )	( )	( )	( )	( )
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1. ESF	-	5,000	5,000	-	5,000	5,000
Other U.S. 2.						
Host Country						
Other Donor(s)						
TOTALS	-	5,000	5,000	-	5,000	5,000

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	C. PRIMARY TECH. CODE 2. Loan	D. OBLIGATIONS TO DATE 1. Grant	D. OBLIGATIONS TO DATE 2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	E. AMOUNT APPROVED THIS ACTION 2. Loan	F. LIFE OF PROJECT 1. Grant	F. LIFE OF PROJECT 2. Loan
(1) ESF	200	210				5,000		5,000	
(2)									
(3)									
(4)									
TOTALS						5,000		5,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 021 022 061

11. SECONDARY PURPOSE CODE:

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code						
B. Amount						

13. PROJECT PURPOSE (maximum 480 characters)

To provide ESF funds resulting from the Amended Military Bases Agreement of 1947 to afford access to a portion of the reverted baselands at Clark, including the Sacobia resettlement area; and to establish a methodology for soil/water conservation along the route of the road.

14. SCHEDULED EVALUATIONS
Interim MM YY MM YY
Final MM 12 YY 84

15. SOURCE/ORIGIN OF GOODS AND SERVICES
☐ 000 ☐ 941 ☒ Local ☐ Other (Specify): _____

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

17. APPROVED BY
Signature: Anthony M. Schwarzwalder
Anthony M. Schwarzwalder
Title: Director, USAID
Date Signed: MM 08 DD 16 YY 81

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MM 08 DD 31 YY 81

AID 1330-4 (8-79)

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ACTION MEMORANDUM FOR THE DIRECTOR

THRU : Mary C. Kilgour, Deputy Director MK DATE: August 3, 1981

FROM : William F. McDonald, Chief, OCD WFM

SUBJECT: Project Authorization - Clark Access Road and Feeder Roads (ESF) - 492-0348

Your approval is required for a grant of $5.0 million in FY 81 from Economic Support Funds appropriation to the Philippines for the subject project.

Discussion: The project will finance construction at national highway standards of between ten and twelve kilometers of access road and all weather roads within a portion of the reverted baselands at Clark, as well as verification and adaptation of soil/water conservation techniques on a site served by the access road. This will permit the further development for economic purposes of the reverted baselands, including the Sacobia resettlement area, with an emphasis on creating livelihood opportunities. The project meets Section 611 requirements and other appropriate A.I.D. requirements for authorization.

Waivers: A waiver of the requirement for an environmental analysis to be completed and reviewed prior to obligation was approved by AA/ASIA on 31 July 1981. No other waivers are needed.

Justification to Congress: FY 81 Congressional Presentation.

Clearances Obtained: The project has received all appropriate clearances including review and approval by the Mission's Project Review Committee.

Recommendation: That you sign the attached Project Authorization.

PROJECT AUTHORIZATION

PHILIPPINES

Clark Access Road and
Feeder Roads
Project No. 492-0348

Pursuant to Part II, Chapter IV, Section 531 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Clark Access Road and Feeder Roads Project for the Republic of the Philippines (Cooperating Country) involving planned obligations of not to exceed Five Million United States Dollars ($5,000,000) in grant funds over a one (1) year period from the date of authorization, subject to the availability of funds in accordance with A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.

The project consists of construction of about twelve kilometers of paved road built to national highway standards, gravel all-weather feeder roads, and a soil/water conservation pilot along the route of the access road. The roads will afford access to a portion of the reverted baselands at Clark, thereby facilitating their further development for economic purposes.

The Project Agreement(s) which may be negotiated and executed by the Officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate:

Source and Origin of Goods and Services

Goods and services financed by A.I.D. under the project shall have their source and origin in the Cooperating Country or in the U.S., except as A.I.D. may otherwise agree in writing.

Clearances:

Typed Name	Office Symbol	Date	Initials
A. Thomas L. Rishoi	OCD	8/4/81	
B. Harold W. Collamer	CO	8/4	
C. George A. Laudato	PO	8/4	
D. Abraham Grayson	OCD	8/5	
E. Steven Sinding	OPHN	8/5	
F. Donald L. Pressley	OD/OLA	8/5	
G. William F. McDonald	OCD	8/5	

Signature: Anthony M. Schwarzwalder
Anthony M. Schwarzwalder
Director

Drafted by: OCD: MKSinding

Date: 6 Aug. '81

PROJECT PAPER

PHILIPPINES
CLARK ACCESS ROAD AND FEEDER ROADS
492-0348

I. Summary and Recommendations

A. Grantee/Executing Agency

The Government of the Republic of the Philippines will be the Grantee. The Executing Agency will be the ESF Management Advisory Committee Secretariat under the Ministry of Human Settlements or its designee(s). The access road and feeder roads portion of the project will be implemented by the Ministry of Public Highways, while the soil/water conservation pilot will be implemented by the Ministry of Agriculture's Bureau of Soils.

B. Project Cost

$5.0 million of ESF monies will be granted, all of which will be obligated in FY 81.

C. Purpose

The project will provide access to a portion of the reverted baselands at Clark, including the Sacobia resettlement area, and pilot techniques for improving soil and water conditions on a portion of the lands. These activities will enhance the Government's effort to promote the economic development of the reverted lands, including expansion of livelihood opportunities.

D. Description

The project has two complementary components: (1) construction of an access road and feeder roads into a portion of the reverted lands, and (2) piloting soil/water conservation techniques on a portion of the lands served by the roads.

E. Analyses

The analyses in the project paper conclude that the project is technically, financially and socially feasible and that planning is sufficiently developed for obligation to take place. Prior to disbursement of funds for

implementation, however, final engineering designs and an environmental impact statement will be completed and approved by both the MAC Secretariat and AID.

F. Statutory Requirements

Project-specific requirements have been met.

G. Recommendation

That the project paper be approved and that a grant of $5.0 million of ESF monies be authorized, all of which will be obligated in FY 81.

Project Paper

Clark Access Road & Feeder Roads
492-0348

II. Project Background and Description

A. Background

On January 7, 1979, the U.S. and Philippine Governments concluded the negotiations on the 1947 Military Bases Agreement by signing an amendment to that Agreement stipulating, among its provisions, that certain lands primarily within Clark Air Base and Subic Naval Base would be returned to the Philippine Government's jurisdiction. While some of this land has been reserved for military purposes, much of the approximately 41,000 hectares once included in the Clark Military Reservation has been identified as available for economic development.

Included in the amendment was a "best efforts" commitment on the part of the U.S. to secure from Congress funding approval to provide additional economic assistance to the GOP in the form of the Economic Support Fund (ESF). It was agreed that projects to be supported with ESF monies generally would be focused on meeting the basic needs of the Philippine population, with an emphasis on utilizing the returned lands for economic development and improving the economic conditions of the areas surrounding the U.S. military facilities. To coordinate this activity at the policy/program level, President Marcos in May 1980 established the ESF Management Advisory Committee (MAC), representing most relevant GOP ministries and agencies. The MAC Secretariat, under the Ministry of Human Settlements (MHS), is the operating arm of this committee. It has been engaged in the process of identifying and planning projects to be implemented by the appropriate ministries utilizing ESF support, including the economic development of the reverted baselands.

Of a planned total of $200 million of ESF monies to be obligated over the period FY 1980-84, $60 million is currently being programmed for the development of the reverted lands at Clark. Most of this funding will be channeled through a Clark Area Development Fund (CADF) which will support a single institution that finances specific development activities as part of an overall development program for the area. This will include the further development of an approximately 5,600 hectare area within the reverted lands for which the Sacobia Development Authority (SDA) has been responsible. However, it is likely that the designation of

a single institution with overall responsibility for planning and the authority to approve and oversee the implementation of development projects will not occur in time for the development of a CADF program before FY 82. Accordingly, it is proposed to obligate funds for the construction of an access road into the reverted lands and a soil/water conservation pilot in advance of obligating funds for CADF, so that essential infrastructure will be under way or complete when it is needed.

One major impediment to the development of the approximately 41,000 hectares around Clark Air Base, including the further development of Sacobia, is the absence of all-weather roads providing access to the reverted lands. A relatively recently completed 7.5 kilometer gravel road leads west from Bamban, Tarlac into the Sacobia resettlement site as far as the community of San Vicente. Another several kilometers of rough cut road extend further west to scattered Negrito* settlements. Even in the dry season, however, travel beyond San Vicente is not possible without four wheel drive.

As early as 1975, the Ministry of Public Highways (MPH) began exploring the possibility of building a second major east-west highway linking the Pampanga-Tarlac area with the West coast. Accordingly, plans were drawn up for an 83 kilometer National Highway between Zambales and Tarlac, traversing the Clark Military Reservation and affording access to the reverted lands from both provinces. In 1976, under the auspices of the Asian Development Bank (ADB), Robert R. Nathan Associates and Amman and Whitney Consulting Engineers carried out a feasibility study for MPH for such a road link. As noted, the objective of the study was to identify a route which would stimulate economic growth in the intervening area and provide a link between the coast of Western Luzon and the Central Luzon plains. Three alternative alignments were considered. The influence area of each alternative encompassed a large portion of the reverted lands to be developed under CADF. The alignment finally recommended extended east from Botolan through a series of valleys to a saddle at an elevation of 600 meters and then through the Crow Valley Bombing Range to the existing O'Donnell-Capas road. Based on anticipated increases in agricultural production within the influence area of the highway and estimated operating costs savings of diverted traffic, the road was determined to be economically feasible.

However, subsequent to the feasibility study, the MPH decided it would be impractical to undertake construction of the proposed route within the foreseeable future because the alignment traversed the Crow Valley Bombing Range. A new route diverging from the recommended alignment about 24 kilometers east of Botolan, and intersecting the Manila North Road at Bamban, 9 kilometers south of Capas, was ultimately adopted.

*Indigenous minorities

A local consulting firm, Integrated Philconsult, Incorporated, completed detailed engineering design for the first 38-kilometer segment of the road running east from Botolan. The initial 14-kilometer stretch of this section is an existing gravel road in good condition requiring only minor vertical realignment and the addition of an asphaltic or portland cement concrete pavement. A construction contract in the amount of ₱30.5 million ($4.0 million) covering the remaining 24 kilometers of this segment was awarded by the GOP to Highway Builders, Inc., in October 1978. The project is estimated to be 40% complete.

Relatively early in the discussion surrounding the amendment of the Bases Agreement, consideration was given to utilizing ESF monies to complete the 84 kilometer link between Bamban and the Zambales Coast. This would have involved the construction at national highway standards of as much as 46 kilometers of new road. In the intervening years, however, competing demands for available ESF funds caused the Government to rethink its desire to commit so large an amount to this undertaking. Also, both security and development considerations caused the Government to reconsider the route of the highway through the reverted lands.

Accordingly, the Government revised downward the amount of road to be constructed with ESF support. First, both the Secretariat and AID thought in terms of constructing 26 kilometers of new road west from Bamban to the community of Flora just short of the perimeter of Crow Valley. However, it has become apparent that little economic development activity is likely beyond the current western boundary of the Sacobia tract other than extensive agro-forestation, because of the extremely rugged terrain of the area. Therefore, the length of the access highway to be constructed on the reverted lands under the CADF was later further reduced to between ten and twelve kilometers. This involves: widening, upgrading, paving and minor realignment of the existing 7.5 kilometers of road leading from Bamban to the community of San Vicente; and adding between 2.5 and 4.5 kilometers of new road along the route of an existing track as far as the planned site for a dendro-thermal plantation and plant near the Negrito settlement of San Juan. The entire length is to be built at national highway standards to permit the Government to complete the link at some later date should its development plans justify the additional segment. (For this reason, sufficient project design funds were made available by the Secretariat for MPH to prepare plans and detailed engineering for the entire 26 kilometers between Bamban and Flora, thereby providing a complete engineering design package from Botolan to Bamban.)

B. Detailed Description

General

The purpose of this project is to provide ESF funds resulting from the Amended Military Bases Agreement of 1947 to construct an access road and selected feeder roads affording access to a portion of the reverted baselands at Clark, including the Sacobia resettlement area. Funding will be sufficient to provide for tree planting and other erosion control measures along the length of the road, in view of the extreme deforestation and unstable soil conditions of the area to be traversed by the road. The project will also establish a methodology for soil/water conservation along the route of the road.

The project consists of constructing ten to twelve kilometers of road. Roughly 7.5 kilometers of the proposed route consists of an existing gravel road in fair condition. The road will commence in Bamban on the Manila North Highway and extend through the resettlement community of San Vicente at Sacobia. About two-thirds of this segment traverses level terrain, while the remainder traverses rolling terrain. The several structures on the existing road were built at low construction standards and are in poor condition. They will require replacement. The alignment of the remaining 2.5 to 4.5 kilometers of the road from San Vicente roughly to San Juan follows a dry season track through difficult terrain. This will entail new construction. The proposed alignment calls for the road to cross the Malago River just west of San Juan and nearly adjacent to the proposed site of the dendro-thermal power plant. (See map, Annex C.)

It is planned that the 7.5 km. segment between Bamban and San Vicente which will be the most heavily traveled will be paved with portland cement concrete, while the remainder is paved in asphaltic concrete. The entire ten to twelve kilometer road will be built to national highway standards by a firm on contract to MPH.

In addition to construction of the highway, the project includes construction of selected feeder roads. These will be largely all-weather gravel roads, although they may be paved if warranted by estimates of usage. The feeder roads will connect existing and planned development activities to the access highway. Possible routes for such roads include: (1) upgrading a link from San Vicente to an established but still growing Ministry of Agriculture facility which includes a plant nursery and a small livestock breeding operation; (2) roads through the western portion of the Sacobia tract to serve a planned dendro-thermal plantation and the construction of a 5 megawatt power plant; (3) an access road to the site of a planned integrated agricultural resource center to be constructed just north of Sacobia on the reverted lands; and, (4) an access route to a proposed Sacobia industrial estate.

Finally, due to the condition of the reverted lands which are deforested and subject to erosion -- a condition which it is important not to exacerbate with this project --, the project includes a soil and water conservation pilot to be undertaken by the Bureau of Soils. Current and past land practices have caused rapid depletion of soil resources of the Clark lands which in turn reduces acquifer recharge potentials. To arrest the current rate of depletion and protect the integrity of soil/water resources certain remedial measures must be undertaken, including contour ditching and vegetative barriers (see Annex E). These activities will be initiated on a roughly 200 hectare area to be served by the access road. The work involved is labor-intensive and will initially create gainful employment for more than four hundred individuals. (If these remedial measures prove workable, it is expected that they will be implemented under CADF on most areas that are denuded, non-irrigated, and below 60% gradient).

The project will facilitate the further economic development of the reverted baselands at Clark, including the Sacobia resettlement site.* Both the highway and the feeder roads are essential for the construction in the relatively near future of the dendro-thermal plant, the agricultural resource center, and the industrial estate. Furthermore, they will afford access of existing and new settlers to much needed employment opportunities associated with the development of these and other facilities.

Construction of the highway in advance of the balance of planned CADF activities serves two purposes. First, it permits the early commitment of some ESF funds to the economic development of the reverted lands at Clark. Secondly, initiation of construction of the road during the 1981-82 dry season is essential in order not to slow down implementation of other planned activities to be served by the roads. However, in view of the tentative nature of the full range of activities to be conducted under CADF, feeder roads will be constructed under this project only to existing activities or to ones, such as the dendro-thermal and agricultural facilities, for which planning is fairly advanced. Any additional feeder roads required for the development of the area will be planned for and financed directly under CADF.

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*The Sacobia Development Plan includes major projects to develop the livelihood opportunities and other basic amenities of the area to make it more attractive to potential settlers. Projects include: (1) agroforestry development (such as feedgrain and sugar cane planting, irrigation development, livestock production, orchard development, fuelwood plantations); and (2) industrial development, including construction of a dendro-thermal power plant, development of an industrial estate, and encouragement of cottage industry.

Project Elements and Costs

The major cost elements of the project are:	$ 000	₱ Equivalent*
1. Improvements of Existing Road		
a. level terrain - 5.4 kms. @ $204,615/km.	1,104,923	(₱8,618,400)
b. rolling terrain - 2.1 kms. @ $236,282/km.	496,154	(3,870,000)
c. structures - 45 meters @ $3,846/m.	173,077	(1,350,000)
Subtotal	1,774,154	(13,838,400)
2. New Road Construction		
a. rolling terrain - 4.5 kms. @ $309,359/km	1,392,115	(10,858,500)
b. structures - 30 meters @ $3,846/m.	115,385	(900,000)
Subtotal	1,507,500	(11,758,500)
3. Feeder Road Construction	320,513	(2,500,000)
4. Soil/Water Conservation Pilot	219,872	(1,715,000)
5. Other		
a. Construction Supervision @ 5%	196,328	(1,531,350)
b. Contingencies @10%	392,654	(3,062,700)
c. Cost Escalation @ 15%	589,109	(4,594,050)
Subtotal	1,177,961	(9, 188,100)
TOTAL	$5,000,000	(₱39,000,000)

* At U.S. $1:₱7.8.

III. Project Analyses

A. Technical Analysis

Engineering Design

MPH has surveyed the proposed route between Flora and San Vicente Final engineering design is currently being carried out by the Region III office of MPH in San Fernando, Pampanga with assistance from the Ministry's Bureau of Construction, as required. A Memorandum of Agreement between the MAC Secretariat and MPH authorizes the work, including the survey for the remainder of the route, to be done by force account at a cost of ₱671,400. Funding for the final engineering design is provided under the ESF Project Design Project (492-0343).

The agreement specifies that the design is to cover the entire 26 kilometer segment of proposed highway running between Bamban and Flora even though construction of only the first ten to twelve kilometers is contemplated under this project. The design for the portion of the proposed highway between Botolan and Flora has been done by MPH. Therefore, completion of the design work for the remaining segment at this time will permit the Government to rapidly contract for additional construction at a later date should its development plans warrant extension of the highway further into the reverted lands or beyond.

The scope of work for the detailed engineering includes: the conduct of all required field surveys, including the establishment of vertical and horizontal control points; soil and material surveys, including subsurface investigations for foundation design; and, drainage and hydrologic studies. Following completion of these studies and surveys, the Ministry will prepare final construction drawings for the project, as well as technical specifications governing the conduct of the work, and a detailed cost estimate based on unit prices for the various items of work to be included in the contract. It is planned that the design work will be completed no later than September, 1981 in order to permit sufficient time for competitive bidding and contracting by the end of the calendar year. (This schedule is proposed so full advantage can be taken of the 1981-82 dry season for construction.)

Although the construction of feeder roads is included in the project, the final design engineering will not be done for them at this time since their precise location remains to be determined. The final project design will, however, provide for tree planting and other suitable erosion control meausures.

The soil/water conservation pilot portion of the project will involve a number of remedial measures suited to denuded lands with slopes of less than about 60% gradient. On 200 hectares served by the highway, contour ditching and the planting of vegetative barriers will be undertaken immediately. Contour ditches are physical erosion barriers excavated on contours across the slope. They entrap and hold transported soils and biomass and impede run-off from rains. Vegetative barriers are hedges of fast-growing trees and/or shrubs planted on the mounds of excavated soil created by contour ditching. (See Annex E for more details.)

Neither contour ditching nor the planting of vegetative barriers is new to the Philippines. However, the activity has not been tried in this area, under this particular agro-ecological environment with limited rainfall. The Bureau of Soils of the Ministry of Agriculture has experience with organizing such activities, training people to undertake the work, and providing for sufficient evaluation/research to permit the approach to be duplicated on much of the remainder of the reverted lands and elsewhere.

Once these measures have stopped soil movement down the slopes and arrested rainfall run-off, more permanent infrastructure investments could be undertaken. They include: (1) the construction of check dams, semi-permanent renewable structures made of rocks and other materials which break the force of water running downhill; and (2) water impoundments, permanent structures built in gulleys or ravines wide enough to serve as reservoirs to store rainfall for supplementary irrigation or other purposes during the dry season. If either check dams or water impoundments are to be constructed at a later date, funding for these activities will be included under CADF.

Design Standards

While the primary purpose of the road is to provide access to a portion of the reverted lands, it may well eventually become part of a major highway link between the coast of Western Luzon and the Central Luzon plains. In addition, the road will be subjected to heavy truck traffic, principally in connection with construction of the dendro-thermal power plant, the agricultural resource center, and the industrial estate. For these reasons, vertical and horizontal design standards applicable to Philippine national highways will be adopted for this project. The road will have a 6.70 meter wide portland cement or asphaltic concrete pavement with shoulders varying from 1.0 to 2.5 meters. All bridge structures will be permanent and consist primarily of reinforced concrete deck girder spans.

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B. Financial Analysis and Plan

General

With the exception of certain relatively minor costs (including MPH supervision), ESF will contribute 100% of the costs of final design engineering (through the Project Design Project), construction, and supervision. The major cost elements to be financed under this project are the actual costs of construction, including labor, materials, and contractor profit, the costs of labor and materials for the pilot, and the costs of a contract with a local A & E firm to supervise actual road construction. No foreign exchange costs are involved. The GOP will assume responsibility for all maintenance costs of the highway and feeder roads.

As noted, it is not anticipated that final engineering design will be completed before September, 1981. For this reason, the construction cost estimate is based on per kilometer costs developed by MPH from statistics available on ongoing construction contracts. While funds will be obligated on the basis of preliminary cost estimates, they will not be disbursed to MPH for construction until the design process is complete and final engineering designs and cost estimates have been submitted to both the MAC Secretariat and AID for approval, as well as an analysis of its environmental implications.

Preliminary Cost Estimate

Excluding the cost of detailed engineering, the estimated cost of the project as set forth in the Detailed Description is ₱ 39,000,000 or $5,000,000. This cost figure was derived on the basis of the following estimates of the costs for new construction and improvements to existing roads, as well as estimated cost of the pilot:

1. Improvements to Existing Road (Portland Cement Concrete Pavement)

   A) Level Terrain:

Pavement	₱1,022,000
Subbase, Base, Shoulders	248,000
Earthwork and Minor Drainage Structures	326,000
Total	₱1,596,000/km. or $ 204,615/km.*

*At U.S. $1:7.8.

B) Rolling Terrain:

Pavement	₱ 1,022,000
Subbase, Base, Shoulders	248,000
Earthwork and Minor Drainange Structures	573,000
Total	₱ 1,843,000/km. or $ 236,282/km.

II. New Road Construction (Asphaltic Concrete Pavement)

A) Rolling Terrain:

Pavement	₱ 570,000
Subbase, Base Shoulders	248,000
Earthwork and Minor Drainage Structures	1,595,000
	₱ 2,413,000/km. or $ 309,359/km.

III. Bridge Structures

A) Reinforced Concrete Deck Girder Spans	₱ 30,000/meter or $ 3,846/meter

IV. Soil and Water Conservation Pilot

A) Labor (incl. laying out contour lines, digging ditches, spraying herbicides, planting vegetative barriers, and so on)	₱ 4,147
B) Materials and Supplies	2,136
C) Research/Assessment	312
Total	₱ 6,595/hectare or $ 846/hectare

Reasonableness/Firmness of Costs

Despite the short -- eighteen months or less -- duration of the project, an average inflation factor of 15 percent has been calculated in projected road construction costs because of recent high rates of inflation which, led largely by increases in fuel costs, have affected the road construction industry. Preliminary cost estimates reflect recent inflation. In addition, a 10 percent contigency factor has been included despite the straightforward nature of project design. In the event that the costs

of actual construction of the access road and/or pilot are less than anticipated, MPH will build additional feeder roads to serve existing and planned facilities.

C. Economic Analysis

Benefit Incidence

In view of the nature of project benefits -- improved access into a portion of the Clark reverted baselands and soil/water conservation to facilitate their further development -- the project does not lend itself to rigorous cost-benefit or internal rate of return analysis. Construction of both the access highway and the feeder roads is economically justified as essential infrastructure for the development of several planned undertakings, as well as improving access to existing facilities at Sacobia. Furthermore, in order to avoid ad hoc development of the lands by sugarcane farmers and others, it is considered important to provide physical evidence of the Government's intent to invest in the economic development of the area.

Benefits of other planned activities at Clark cannot be quantified yet because they are still at the preliminary design stage. However, criteria for their inclusion under CADF will generally include their economic viability. More specifically, the planned dendro-thermal plantation and power plants will be beneficial in several ways, including: reforestation of the badly denuded western portion of the Sacobia tract, power generation and co-generation, and employment creation, principally for the indigenous population. The planned agricultural resource center will serve as a regional center for the verification and adaptation of upland agricultural research, as well as provide inputs for agriculture both on the reverted lands and in their immediate vicinity. The facility will provide both skilled and unskilled employment opportunities. Finally, the resettlement community of San Vicente is projected to grow from its current one hundred families to five or six hundred families. Employment has been a critical problem and it is anticipated that the access highway will enable settlers to take advantage of employment opportunities in Bamban and elsewhere off Sacobia, as well as facilitate employment generation on the reverted lands, including the development of an industrial estate. It is also hoped that improved access will help the indigenous population, including Negritos living west of San Vicente, to avail themselves of increasing employment opportunities, in addition to those at the dendro-thermal plantation.

Cost Effectiveness

Because an economic analysis utilizing cost-benefit or internal rate of return methodologies is not possible for reasons stated above, a cost effectiveness approach will be used in reviewing MPH detailed engineering, including cost. Without compromising national highway standards or sacrificing technical soundness, MPH will be encouraged to reduce costs. To the extent that greater cost effectiveness is achieved, it will be possible to increase the number and length of feeder roads constructed under this project.

D. Social Analysis

The Clark reverted baselands have been home to scattered population groups for some time. Indigenous settlers known as Negritos or Aeta have lived on the tract for hundreds of years as hunters and gatherers. In time, the area became dryer and more suited to agriculture and pressure from lowland populations grew. Small villages were established, and the Negritos retreated to the forested foothills in the western part of the area where they lived a nearly self-sufficient existence. By the time the Clark Military Reservation was established at the turn of the century, the Negritoes were established in the mountain area. As the air base grew, especially during and following World War II, it became the area's primary economic magnet, drawing thousands of people to the economic activity generated by the base. Squatter settlements grew up along the perimeter of the base.

In time pressure was brought to bear on both U.S. and Philippine authorities to resettle the squatters away from the perimeter of the base. A succession of efforts at doing so culminated in the mid-1970s in a decision to set aside more than 5,000 hectares just north of the base as the Sacobia Resettlement Area for up to 600 families. A number of Government agencies, including the Ministry of Agrarian Reform and more recently the Sacobia Development Authority (an arm of the Ministry of Human Settlements), worked at developing the Sacobia site. Construction began in May of 1979. The government improved an existing gravel road and bridges to San Vicente. It also built one hundred housing units and several community buildings on the site. A few pilot-scale livelihood projects, such as mango orchards, a seedling nursery, a piggery and biogas production, poultry raising, reforestation, expanded rice cultivation, and so on were undertaken. The success of some of these efforts notwithstanding, lack of employment has continued to be a problem. Furthermore, because of the isolation of San Vicente from neighboring municipalities, efforts to extend services such as medical care and utilities have been only

marginally successful. For these reasons, the population of San Vicente has not been stable, with families apparently moving out when better opportunities present themselves. This has been a deterrent to SDA plans to consolidate and finish work begun earlier and to undertake more extensive development plans for the tract, including enhancement of livelihood opportunities.

As noted, construction of the access and feeder roads will facilitate the further development of both Sacobia per se, including the industrial estate and dendro-thermal plantation and power plant, and the near-by agriculture resource center. For this reason it is considered to have a positive social impact on the existing settlers as well as those likely to be attracted to the area as employment opportunities increase.

Furthermore, the decision not to build the highway as far as Flora at this time was motivated in part out of a concern for the Negritos who have moved further and further back into the hills, many of whom now reside beyond Sacobia in communities like Borug and Mataba. Based on discussions with their leaders, it is believed that in the absence of firm plans or budgets for extending the access highway to the Zambales coast or for developing lands west of the Sacobia tract, many Negritos would prefer continued isolation and hence protection from piecemeal exploitation of the lands a lengthier highway would traverse. Finally, because the reverted lands west of Sacobia are too steeply sloped for anything but extensive agro-forestation, a decision not to extend the highway beyond San Juan will not jeopardize significant additional opportunities for economic development.

E. Environmental Statement

As indicated in the approved IEE which accompanied the PID for the Bamban-Botolan Access Highway, construction of the access and feeder roads will affect the physical environment. Accordingly, the MAC Secretariat has requested proposals from a number of firms for an assessment of likely environmental effects of the road, including identification of means through which adverse effects might be mitigated, such as tree planting and other suitable erosion control measures.

The planned pilot soil and water conservation activity in the more steeply sloped areas on either side of the further reaches of the highway will also mitigate adverse environmental effects of road construction. Not only will it prevent further environmental degradation as a result of construction of the highway, but it will reverse existing erosion occuring as a result of earlier deforestation of the area.

Finally, because the route of the highway includes upgrading the existing gravel road to San Vicente and constructing another 2.5 to 4.5 kilometers of road along an existing track currently traveled by jeep rather than an entirely new route, planned construction is not expected to have a substantial additional environmental impact. In fact, by permitting the GOP to undertake agro-forestation, including a dendro-thermal plantation and the soil and water conservation pilot activity, on the deforested western section of the Sacobia tract, it can be argued that the road will have a net positive environmental impact.

In any case, the environmental impact study (EIS) will not be completed before planned obligation of project funds. Therefore, as in the case of the detailed engineering designs and costs for the road, review and approval of the EIS by both the MAC Secretariat and AID will precede disbursement of any funds for construction of the highway.

IV. Implementation Planning

A. Administrative Arrangements

Government Administrative Arrangements

The GOP will be the grantee, and the executing agency will be the MAC Secretariat at MHS. The Ministry of Public Highways (MPH), in coordination with the Bureau of Soils of the Ministry of Agriculture, will be the implementing agency. Both agencies will coordinate implementation with the Sacobia Development Authority (SDA).

More specifically, the Region III Director of MPH, with assistance from MPH Central as needed, will be responsible for implementation (including contracting and monitoring) of the access and feeder roads. Employing procedures established for the GOP's on-going road construction program MPH will contract for construction of the access highway following competitive bidding procedures. MPH will also contract with an A & E firm for assistance in construction supervision and monitoring. The Bureau of Soils will be responsible for implementing the soil/water conservation pilot. Because it will undertake the pilot on an approximately 200 hectare area along the route of the access road, it will be necessary for the Bureau of Soils to carefully coordinate its activities with MPH.

As the executing agency, the MAC Secretariat will authorize construction of the access and feeder roads as well as the pilot, once acceptable detailed plans and engineering are in hand. After designs and implementation plans are approved, the Secretariat will initiate its budget process, beginning with securing a cash disbursement ceiling (CDC) against which MPH can initiate bidding. MPH will then enter into an agreement with the Secretariat, similar to the current Memorandum of Agreement for design of the road, regarding construction. On the basis of this agreement, MPH will be in a position to enter into a contract. The same procedure will be followed with regard to the soil/water conservation pilot, in this case an agreement between the MAC Secretariat and the Ministry of Agriculture.

Inasmuch as both MPH and the Bureau of Soils undertake similar activities as part of their regular GOP-funded programs, neither agency should encounter any undue difficulty in implementing this project, assuming they receive approvals and funding releases in a timely manner. Both agencies will furnish the Secretariat and USAID with copies of their regular progress reports, as well as copies of all reports supplied by the A & E firm which supervises and monitors construction of the access highway on contract

AID Project Administration

USAID will assist the MAC Secretariat and the implementing agencies in project implementation to the extent desired and feasible, monitor the project, provide necessary AID approvals, and participate in progress assessments, as well as the final evaluation of the project. Both monitoring and evaluation of the access road component of the project within USAID will be the responsibility of the Office of Capital Development (OCD), using existing staff. In this connection, the Office will be responsible for approving final designs and implementation plans and disbursements as well as for regularly monitoring the progress of construction. OCD is staffed with U. S. direct-hire project officers and engineers, as well as local engineers who are experienced in monitoring road construction under other AID-assisted projects. The Office of Rural and Agricultural Development (ORAD) will oversee implementation of the soil/water conservation pilot.

B. Implementation Arrangements

General

The detailed project description outlines in a general fashion activities required to implement the project. As noted, final designs and budgets, as well as final implementation plans, for both the access and feeder roads and the soil/water conservation pilot will not be available until after obligation. They will be approved, however, by both the MAC Secretariat and USAID prior to disbursement of funds for construction. Preliminary implementation plans for the highway and pilot appear in Annexes D and E.

ESF funds will be used for construction, including materials and labor, associated with the access and feeder roads and the pilot. No GOP contribution for construction will be required. Since no off-shore procurement is involved in the project, construction contracts can be let immediately following notification from the MAC Secretariat of funds availability.

Implementation Schedule

The following are, target dates for implementation:

Action/Agent	Date
(1) Grant Authorized (USAID Director)	July 31, 1981
(2) Grant Agreement Negotiated and Signed (MAC Secretariat/USAID)	August 31, 1981

(3) Final Designs and Budgets Completed (MPH/Bureau of Soils)	September 30, 1981
(4) Environmental Impact Statement Completed (Contractor)	September 30, 1981
(5) Final Designs and Budgets Approved (MAC Secretariat/USAID)	September 30, 1981
(6) Access Highway Bidding Initiated; Bids Evaluated (MPH)	October/November, 1981
(7) Soil/Water Conservation Preliminary Surveys and Contour Layouts (Bureau of Soils)	November/December, 1981
(8) Highway Contract Approval (MPH/MAC Secretariat/USAID)	December 1981
(9) Pilot Planting Material Propagation/ Slope Treatment Initiated (Bureau of Soils)	January 1982
(10) Notice to Proceed on Highway Construction Issued (Secretariat/MPH)	January 1982
(11) Contract Highway Construction Begins	February 1982
(12) Pilot Evaluated; Final Report Prepared (Bureau of Soils)	December 1983
(13) Project Assistance Completion Date	December 1984

Thus, actual project implementation can begin in January 1982. This will permit both the Bureau of Soils and the highway contractor to get work well underway during the next dry season. In the case of the pilot, slope treatment should be completed well in advance of the monsoon, enabling the Bureau of Soils to organize planting in time to take full advantage of the rains to get the vegetative barriers established.

AID Disbursement Procedures

USAID will disburse obligated funds for the project in the same manner used for the ESF-financed Elementary Schools Construction project. All advances of funds will be based on cash requirements for entering into commitments for project construction.

This will involve the following steps and procedures:

(1) The GOP places the estimated peso cash requirement for constructing the roads and undertaking the pilot in a special non-interest bearing peso account in the Treasury of the Philippines and provides USAID evidence of the deposit;

(2) USAID disburses the dollar equivalent of the cash requirements for constructing the roads and undertaking the pilot to the Treasury of the Philippines and the dollars then become free foreign exchange;

(3) After final designs, budgets, implementation plans, and the environmental impact study are approved and conditions precedent are met, USAID approves disbursements by the MAC Secretariat from the special peso account to the implementing agencies;

(4) Commitment, disbursement and expenditure reports on the special peso account are provided to AID on a quarterly basis.

This procedure will result in there being a significant pipeline between commitments and expenditures during the first year of the project. The reason advances will be outstanding, perhaps for more than a year, is that GOP contracting policy requires that funds be in place before construction contracts are entered into, and the highway contract will extend for nearly two years. Since the special peso account is in the Treasury of the Philippines, GOP laws and regulations governing contracting apply. No pipeline between obligations and commitments is anticipated, since it is planned that all funding for road construction and the pilot will be advanced.

Reporting Requirements

Each advance of funds will be liquidated by a financial report and certification from the MAC Secretariat to USAID accounting for funds expended. Interim progress reports will be submitted to USAID through the Secretariat by both MPH and the Bureau of Soils on a quarterly basis. USAID will also be supplied copies of the monitoring reports of the A & E firm on contract to MPH. These reports will supplement USAID monitoring of construction.

C. Monitoring and Evaluation Arrangements

Monitoring and Approvals

The MAC Secretariat is currently monitoring project design activities and it plans to monitor implementation once construction is underway. AID will regularly be supplied with copies of resulting progress reports, as well as those of the A & E firm assisting MPH to supervise construction.

In addition AID will regularly monitor project construction and expenditures in order to liquidate the advance for construction. Monitoring by both the Secretariat and USAID will emphasize both physical progress and financial expenditures.

Because obligation is planned on the basis of preliminary designs and budgets, USAID approval of final designs, budgets, and implementation plans for both the access road and the soil/water conservation pilot will be required prior to disbursing any funds to the implementing agencies. In the case of the road, USAID approval of both the construction contract and the A & E contract for supervision is required. Furthermore, once plans for the feeder roads component of the project are finalized, based on requirements of other activities to be developed within the reverted lands, USAID approval will be secured before construction is begun. Finally, if any deviation from approved plans is required, USAID prior approval will be sought.

Evaluation

In the case of the access and feeder roads portion of the project, regular progress reporting will enable both the MAC Secretariat and USAID to assess project implementation. No other evaluation is planned under this project. Instead, the development impact of the highway will be assessed in connection with the CADF.

The purpose of the soil/water conservation pilot, however, is to enable the Bureau of Soils to gain experience with contouring and the planting of vegetative barriers to arrest soil erosion and restore water retention capacity. Verification and adaptation of techniques used elsewhere to the soil conditions on the reverted lands, as well as training of local personnel, will permit replication of this methodology elsewhere on the reverted lands, most probably beginning with the site for the proposed Agricultural Resource Center. For this reason a research/documentation component will: (1) measure present and future rates of runoff, erosion, ground water retention and other physical factors; (2) develop variation in protective practices for slopes; and (3) document cost and benefits of conservation practices.

D. Conditions Precedent, Covenants and Negotiating Status

Conditions Precedent/Covenants

In addition to routine conditions, such as the designation of a representative for the project, the project agreement will require that final designs, budgets, implementation plans and the EIS for the access and feeder roads are approved by the MAC Secretariat and USAID prior to disbursing funds to MPH for construction. Likewise, plans and the budget for the soil/water conservation pilot must be approved by the MAC Secretariat

and USAID prior to disbursing funds to the Bureau of Soils. (In the event plans for the pilot are complete prior to those for the access highway, funds can be disbursed for the pilot groundwork, assuming the access road alignment is set.)

Finally, the GOP shall covenant to assure adequate maintenance of both the access and feeder roads, once construction is complete.

Negotiating Status

The project has been under intensive discussion with the implementing agencies -- MPH and the Bureau of Soils --, as well as the MAC Secretariat. The Secretariat received both MAC and presidential endorsement of its development scheme for the reverted baselands at Clark, including the plan to construct an access road. There is general agreement that this activity should be initiated in FY 81.

The PP has been drafted by the Secretariat and USAID and reviewed by the implementing agencies. There is agreement on all substantive elements of the project, as well as disbursement procedures, reporting and monitoring requirements, and proposed conditions precedent to advancing of funds for construction. USAID does not, therefore, anticipate any obstacles to or delays in execution of the project agreement.

ANNEXES

A - PID Approval Message

B - Logical Framework Matrix

C - Map of Project Area

D - Access Highway Preliminary Implementation Plan

E - Soil/Water Conservation Pilot - Preliminary Design/Implementation Plan

F - Statutory Checklist

G - Director's Certification

DEPARTMENT OF STATE

TELEGRAM

INCOMING
Amembassy, MANILA

CN: 01093

ACTION:
AID-12

INFO:
AMB
DCM
POL
POLR
CONS
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ECOM
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ADM
USIS
CPRP
JMAG
CEBU
AID
ADB
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B&F
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ATO
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TSO

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CY/INIT
13 Apr

UNCLASSIFIED
Classification

NNNNVV MJA035EHE207
PP RUMVC
DE RUEHC #6459 0930930
ZNR UUUUU ZZH
P 020745Z APR 80
FM SECSTATE WASHDC
TO AMEMBASSY MANILA PRIORITY 8841
BT
UNCLAS STATE 086459

CRU

AIDAC

E.O. 12065: N/A

TAGS:

SUBJECT: BOTOLAN-BAMBAN ACCESS ROAD (492-0348)

REFS: A) STATE 062171, B) MANILA 05132, C) STATE APAC 3/7 -(492-0342)

1. APAC APPROVED SUBJECT PID MARCH 18 WITH FOLLOWING GUIDANCE FOR PP DESIGN:

...(A) U.S. A AND E INVOLVEMENT IN DESIGN.

APAC DISCUSSED THE NEED TO LINK A AND E CONTRACTOR FOR SUPERVISION OF CONSTRUCTION TO THE DESIGN TO ASSURE CONSISTENT PRODUCT. IT WAS REALIZED THAT REF B, PARA 5, STATES MISSION INTENT TO BRING IN U.S. EXPERTISE AT LATTER STAGE BUT RECOMMENDS MISSION CONSIDER U.S. A AND E ALSO BE INVOLVED IN THE DESIGN STAGE. PP SHOULD SPECIFICALLY SPELL OUT PRECISE RELATIONSHIP OF U.S. A AND E AT BOTH DESIGN AND CONSTRUCTION STAGES TO PHILIPPINE A AND E AND CONSTRUCTION CONTRACTOR TO ENSURE QUALITY, PROGRESS AND ACCURATE COSTS TO EXTENT POSSIBLE.

...(B) DISBURSEMENT OF FUNDS.

FUNDS WILL BE DISBURSED FOR THIS PROJECT UNDER PROCEDURES SIMILAR TO THOSE FOR ELEMENTARY SCHOOL CONSTRUCTION, REF C, PARA 1A. IN ORDER TO PLAN SUCH FUNDING, THE PP SHOULD INCLUDE FINANCIAL PLAN WITH THE ANNUAL PROJECT REQUIREMENTS, BY LOCAL COST AND FOREIGN EXCHANGE COMPONENTS.

...(C) PP SHOULD PARTICULARLY ADDRESS PROCEDURES FOR PROCUREMENT OF BOTH SERVICES (A AND E AND CONSTRUCTION CONTRACTOR). COMMODITIES AND SERVICES WILL BE IN ACCORDANCE WITH AID PROCEDURES FOR GRANTS (I.E., U.S. ONLY) EXCEPT TO

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Classification

X 31

UNCLASSIFIED

EXTENT OTHERWISE JUSTIFIED (E.G., INCLUDING PHILIPPINES). PROCUREMENT PLAN SHOULD BE INCLUDED FOR ALL COMMODITIES. ANY SIGNIFICANT NON-COMPETITIVE PROCUREMENTS SHOULD BE COVERED BY DOCUMENTED WAIVER REQUESTS IN THE PP OR SUBMITTED AT EARLIER PROJECT DEVELOPMENT STAGES.

2. APAC ALSO SUGGESTS THE FOLLOWING FOR COMMENT IN PP:

...(A) DESIGN SPECIFICATIONS.

MISSION MAY WANT TO CONSIDER SPECIFICATIONS INCLUDING ALLOWANCE FOR OVERLOADS, PARTICULARLY GIVEN TERRAIN PROBLEMS FOR THE ROAD. PP TECHNICAL ANALYSIS SHOULD REVIEW THE QUESTION AND ASSUMPTIONS OF EARLIER TRANSPORTATION STUDY ABOUT TRAFFIC LOADS.

...(B) COST OF ALTERNATIVE ROUTE.

AID/W REALIZES THAT BECAUSE OF THE MILITARY USE OF THE CROW VALLEY, THE ALTERNATE ROUTE INVOLVING 15 KILOMETERS EXTRA OF MOUNTAINOUS TERRAIN MAY BE CONSTRUCTED AT A MUCH HIGHER COST PER KILOMETER. THE PP SHOULD DETAIL REASONS WHY MORE ECONOMIC ALIGNMENT IS NOT TENABLE AND ATTRIBUTE EXTRA COSTS ACCORDINGLY IN ECONOMIC ANALYSIS.

3. ADDRESS OF THE ISSUES ABOVE SHOULD COMPLEMENT AS APPROPRIATE PP RESPONSE TO QUESTIONS ON WHICH COMMENTS EXCHANGED REFS A AND B.

4. BUREAU ENVIRONMENTAL OFFICER WILL COMMUNICATE SEPARATELY ON SCOPE OF ENVIRONMENTAL ANALYSIS. VANCE

ET
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AID 1020-20 (11-79)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

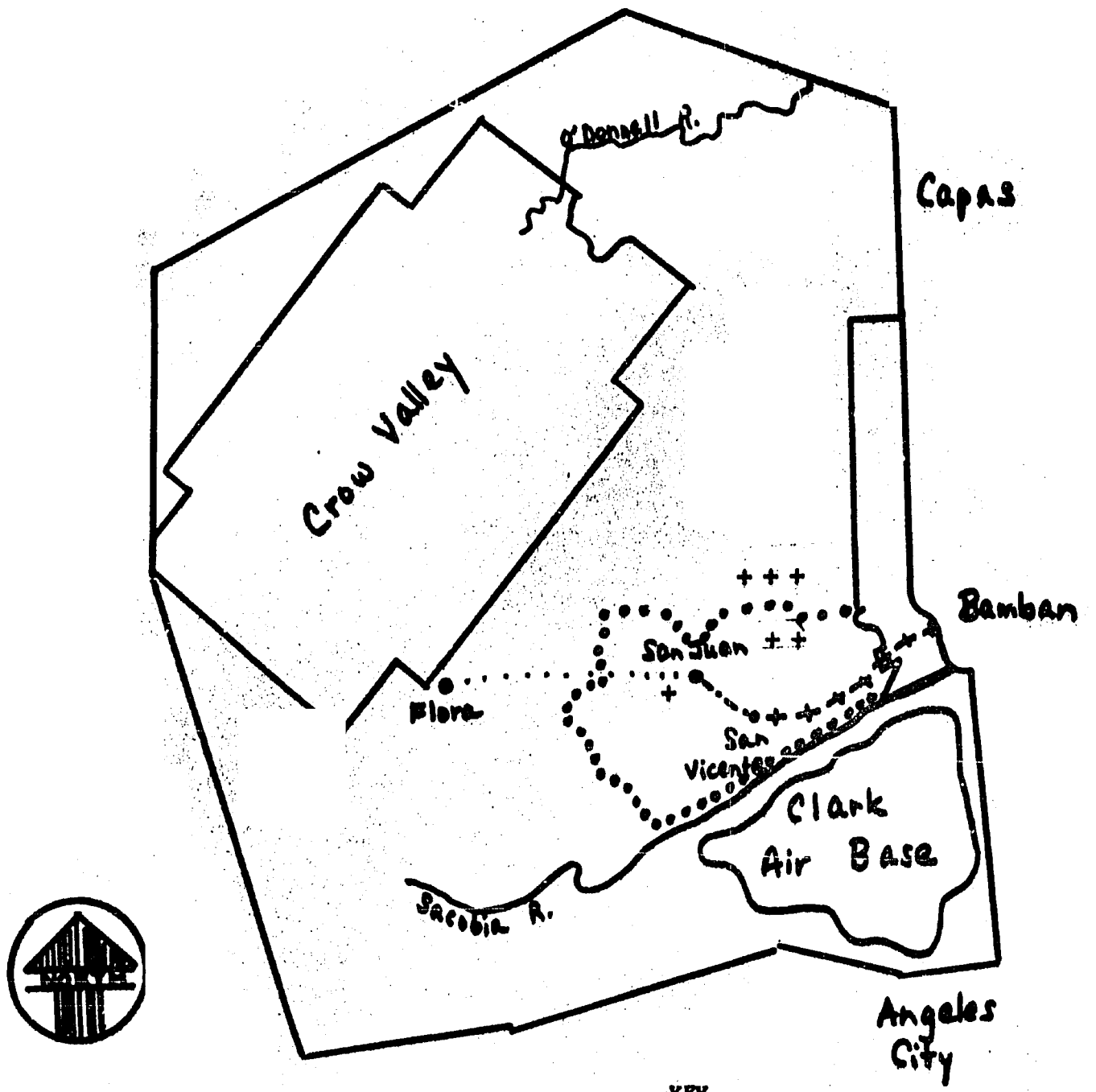
Life of Project:
From FY 81 to FY 83
Total U S Funding $5.0 million ESF Grant
Date Prepared: June, 1981

Project Title & Number: Clark Access Road and Feeder Roads (492-0488)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1) To facilitate the economic development of the reverted baselands at Clark with an emphasis on promoting livelihood opportunities for existing and new residents.	**Measures of Goal Achievement: (A-2)** Up to 40,000 individuals (including indigenous population groups, resettled squatters, and new settlers) reside at and derive their livelihoods from the reverted baselands.	(A-3) - Census and other GOP data - Evaluation of Clark Area Development Program	**Assumptions for achieving goal targets: (A-4)** - Clark Area Development Authority is formed and a Development Fund is established to implement plans dendro-thermal plantation and plant, agricultural resource center, industrial estate, extensive agro-forestation, and other livelihood-related activities. - Settlers are willing to locate on reverted baselands.
Project Purpose: (B-1) To provide ESF funds resulting from the Amended Military Bases Agreement of 1947 to afford access to a portion of the reverted baselands at Clark including the Sacobia resettlement area; and to establish a methodology for soil/water conservation along the route of the road.	**Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)** Sufficient all-weather access within the Sacobia resettlement area and its immediate vicinity to permit development of a dendro-thermal plantation and plant, an agricultural resource center, an industrial estate, and other livelihood opportunities, as well as the further development of the Sacobia resettlement area.	(B-3) - Ministry of Human Settlements reports, Ministry of Public Highways and Bureau of Soils reports - Project Evaluation	**Assumptions for achieving purpose: (B-4)** - Access is sufficient for construction of planned facilities. - Soil/water conservation techniques prove feasible for wider implementation on reverted lands.
Project Outputs: (C-1) (1) An access road constructed from Bamban through San Vicente and roughly to San Juan; (2) Feeder roads constructed to serve planned and existing facilities within the influence area of the access road; (3) Soil/water conservation techniques verified and adapted to local conditions.	**Magnitude of Outputs: (C-2)** (1) 10-12 kilometers of paved road built to national highway standards; (2) gravel, all-weather feeder roads; (3) 200 hectare site served by the access road contoured and planted with vegetative barriers.	(C-3) (1) Ministry of Public Highways records and reports (2) Bureau of Soils records and reports	**Assumptions for achieving outputs: (C-4)** - MPH adheres to construction schedules. - Bureau of Soils adheres to implementation plans.
Project Inputs: (D-1) (1) USAID - $5.0 million grant of ESF monies. (2) GOP - Inkind contributions.	**Implementation Target (Type and Quantity): (D-2)** (1) USAID - labor - materials - services of an A&E firm for construction supervision (2) GOP - project design - construction monitoring	(D-3) - GOP/US Project Agreement	**Assumptions for providing inputs: (D-4)** - MPH completes detailed designs and engineering in a timely manner.

Annex B

ANNEX C - PROJECT AREA MAP



KEY

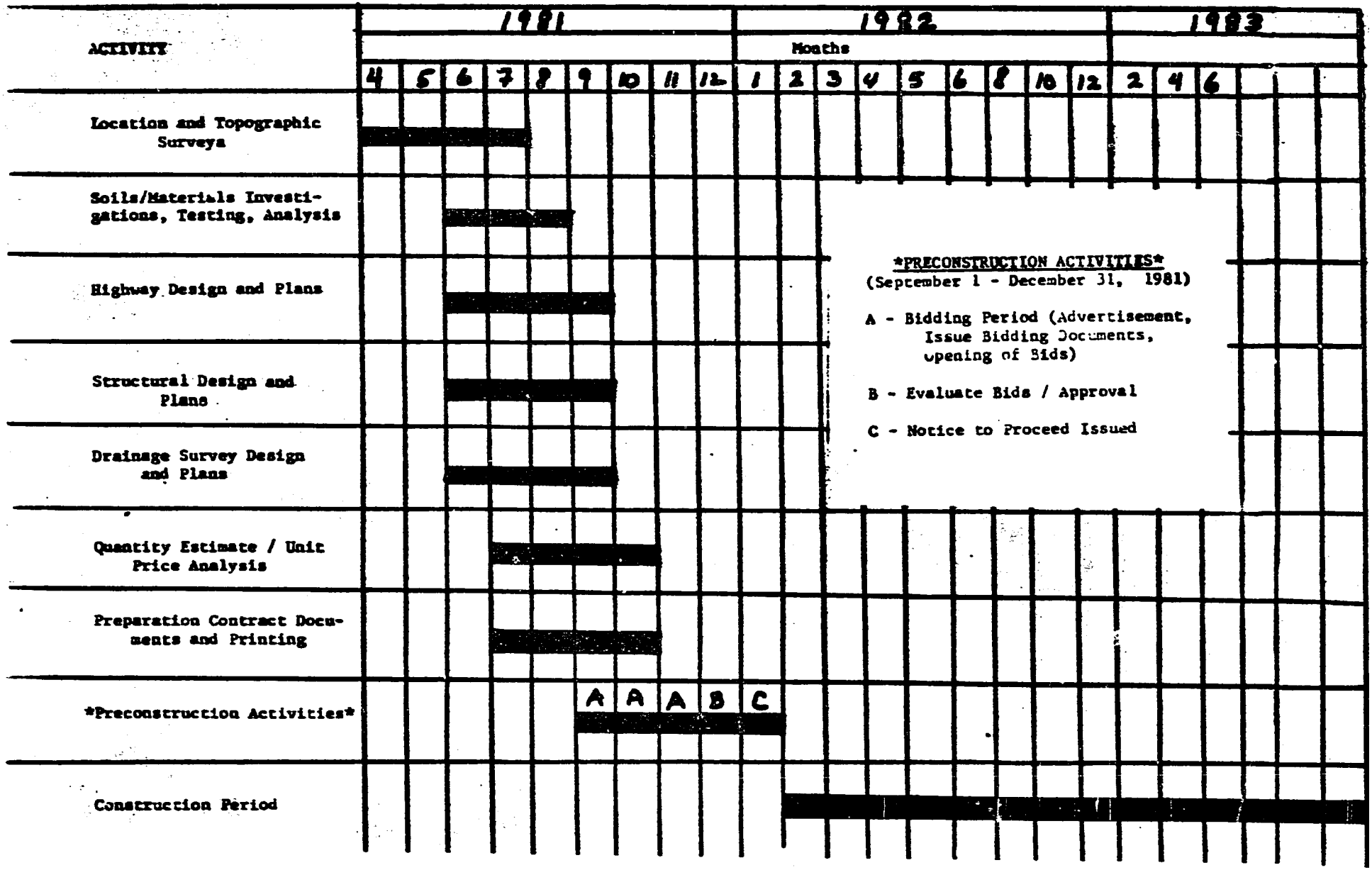
- Sacobia Resettlement Area
- Existing Road to be Improved under Project
- New Road to be Constructed under Project
- Possible Future Construction
- \+ Dendro-thermal Plant/ Plantation
- ++ Industrial Estate
- +++ Agricultural Resource Center

SCALE 1: 200,000

5 0 5 10 15 KM

ANNEX D - Access Highway Preliminary Implementation Plan

. SCHEDULE OF ACTIVITIES .



Soil/Water Conservation Pilot - Preliminary Design/Implementation Plan

Introduction:

Agricultural development is being given a high priority on the reverted baselands at Clark. Basic to the viability of any plan to promote agriculture is the preservation and conservation of soil fertility and water supplies. However, past and current land use practices are causing rapid depletion of the soil resource, which in turn reduces acquifer recharge potentials.

To learn more about arresting the current rate of depletion and permanently protecting soil and water resources, the Bureau of Soils plans to pilot test a series of conservation measures involving basic infrastructure investments on a hilly portion of the reverted lands at Sacobia, adjacent to the access and feeder roads. The 200 hectare site will parallel the access road between San Vicente and San Juan where the terrain is suitable. Early implementation of these measures in conjunction with road construction will provide the essential data and experience required to expand the work throughout suitable portions of the reverted lands under the CADF.

Substantial increases in surface/ground water availability during the dry season and reduced damage to other investments, such as roads and irrigation systems caused by floods and siltation, are realistic objectives for the activity. They can be attained concurrent with high levels of agricultural production/productivity, provided the approach is adapted to local conditions and carefully implemented.

The Problem:

The soils found on the reverted baselands are highly erodable. The profile shows a sandy loam topsoil overlaying heavy clay subsoils. Water easily penetrates the topsoils, but deeper infiltration tends to be inhibited by the heavy subsoils and scarcity of deep rooted vegetation. As a consequence, hydrostatic pressure builds up forcing the topsoils away from the subsoils and, on sloping land where there are no deep rooted plants, soil erosion occurs. Although no research on soil loss has been done on the reverted lands, the potential has been estimated to be sufficiently high that, without a soil conservation effort prior to intensive agricultural development, the area could be so severely eroded in 15 to 20 years that only bedrock and heavy clay would remain in some areas.

The soils on the reverted land have the potential for high agroforestation productivity. Most of the area is presently covered with cogon, however,

which severely impedes agricultural development and reforestation because of the aggressiveness and fire-prone characteristics of this grass. By the same token, cogon is presently the principal erosion control agent. Therefore, something must be planted in its place if disastrous soil losses are to be avoided when the land is cleared.

Recommendations:

Soil/water conservation methodologies exist which can avert the possibility of erosion cancelling out any agricultural development gains to be made through removal of the heavy cogon grass covering of much of the reverted lands. Appropriate measures include contour ditching, vegetative barriers, check dams, and water impoundments, all of which are feasible on slopes of less than 60%.

Constructing contour ditches involves creating physical erosion barriers on contours across the slopes. These ditches entrap transported soils and impede run-off from rains. (Table 1 and Figure 1 illustrate the lengths and distances between ditches by gradients.) Excavated soil is piled on the downhill side of the ditch forming a slight mound. The area between ditches is planted to perennial legume cover-crops.

Vegetative barriers are hedges of fast-growing trees and/or shrubs planted on the mounds of excavated soil created by contour ditching. Ditches, mounds, and hedges, plus cover crops growing in areas between ditches, all combine to arrest soil movement down the slope. Concurrently, rainfall run-off is slowed, allowing time for rainwater to soak into the ground and recharge acquifers.

More permanent structures to further enhance soil/water conservation include: construction of check dams, semi-permanent structures made of brush, rocks and other materials in the area; and water impoundments, permanent structures which serve as reservoirs to store rainfall for supplementary irrigation. While construction of these structures would be desirable, it is not proposed to include them initially. Instead, the pilot will concentrate on contour ditch construction and planting of vegetative barriers, both measures which can be implemented immediately using labor intensive methods, animal power, and/or low levels of mechanization. (Check dam and water impoundment sites could be identified in 1982 and construction undertaken thereafter under CADF.)

The pilot will be implemented as follows. Contour ditching, as well as grass cutting and ringweeding of volunteer trees and shrubs to create firebreaks between ditches, will begin as soon as funds are available and the alignment of the access road is finalized, roughly in October or November 1981. Contour ditch lines will be plowed using carabaos and moldboard plows to loosen soil. Hand labor will be used to shovel out loosened soil, pile it in mounds and finish the ditch. Laborers also

assigned to cut grass and ringweed will plant cover crop seeds on areas previously treated with biodegradable sprays to kill cogon. Ditch construction will continue through the dry season. Simultaneously seeds will be multiplied and seedlings started so that planting of vegetative barriers, only possible during the rainy season, can begin by June 1982.

It has been estimated that the cost of implementing contour ditching and planting of vegetative barriers is slightly more than ₱6,500 per hectare. Assuming it is undertaken on approximately 200 hectares along the route of the road, the total cost including that of a research/evaluation component, would be roughly ₱1,715,000. The activity would provide temporary employment for more than 400 laborers. By 1982, field supervisors would have gained sufficient experience and have developed management capabilities to cover larger areas, beginning perhaps with the site for the agricultural resource center north of Sacobia.

Table One

Reverted Baselands - Variation in Land Manipulation
Soil/Water Conservation Pilot

% Slope 1/	Land Manipulation	Meters between Contours	Meters/ha Contours	Ha. involved 200
0 - 5	A	None	N/A	
5	B	40	250	
10	B	20	500	8 - 20%
15	B	15	750	
20	C	10	1,000	
40	C	5	2,000	12 - 30%
50	C	4	2.500	
50+	D			50 - 80%

1/ % Slope = Meters of vertical rise per 100 horizontal meters

2/ Projected Activities Based on Slope Variation:

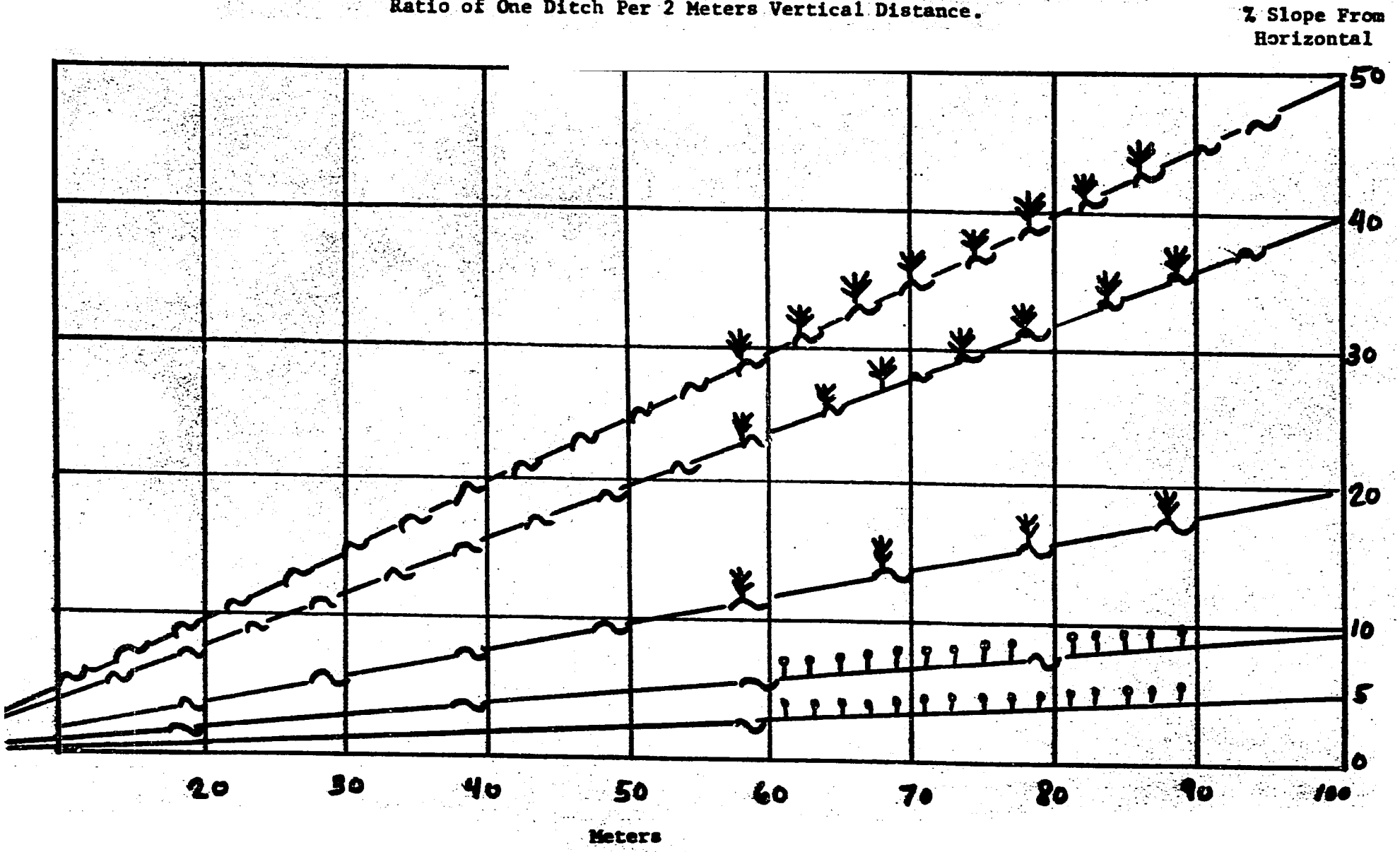
A) Plant row crops on contour or establish pasture.

B) Establish permanent contour furrow, maintain each year with plow. Plant crops on contour between furrows. Mulch exposed land.

C) Establish permanent contour ditches plant trees on downhill side of bank. Plant ground cover/low shrubly cash crop between ditches.

D) Allow regeneration of native flora and create firebreaks.

Fig. I - Illustration of Slopes and Number of Ditches Required to Maintain Ratio of One Ditch Per 2 Meters Vertical Distance.



qb

PROJECT CHECKLIST

Listed below are statutory criteria applicable g ierally to projects with FAA funds and project criteria applicable to individual fundin sources: Development Assistance (with a sub-category for criteria applicable only to l ins); and Economic Support Fund.

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

A. GENERAL CRITERIA FOR PROJECT

1. FY 80 App. Act Unnumbered; FAA Sec. 634A; Sec. 653(b). (a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure)?

   (a) Included in FY 81 Congressional Presentation, as Bamban-Botolan Higiway (492-0348).

   (b) Yes.

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

   (a) Yes.

   (b) Yes.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

   N.A.

4. FAA Sec. 611(b); FY 80 App. Act Sec. (501). If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?	N.A.
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?	Yes, see Mission Director Certification Annex G.
6. FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs?	No. Project not intended to encourage regional development.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	(a) N.A.; (b) will utilize private contractor under competitive bidding procedures; (c) no; (d) N.A.; (e) will facilitate agricultural and industrial/ commercial development; (f) N.A.
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	Project involves exclusively local cost financing for labor and materials.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

Local contribution is not called for in case of ESF-financed project; no excess foreign currency available.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

No.

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes.

12. FY 80 App. Act Sec. (521). If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

N.A.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria.

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

(a) Activity will facilitate development of livelihood opportunities for up to 40,000 on reverted baselands; many existing and new settlers are among the poor, especially indigenous minorities;

(b) N.A.

urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

(c) This project will facilitate GOP development of the area;

(d) Women and men will benefit from livelihood opportunities;

(e) N.A.

b. FAA Sec. 103, 103A, 104, 105, 106. Is assistance being made available (include only applicable paragraph which corresponds to source of fund used. If more than one fund source is used for project, include relevant paragraph for each fund source

N.A. Assistance is being provided as ESF as result of the RP/US Military Bases Agreement Amendment.

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

Yes, especially with regard to soil/water conservation pilot.

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

No; not required under ESF projects.

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

No

f. FAA Sec. 281(b). Describe extent to which program recognizes the

The project finances necessary infrastructure to permit development of the reverted baselands for economic purposes.

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particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

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

2. Development Assistance Project Criteria (Loans Only).

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

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

STANDARD ITEM CHECKLIST

Listed below are statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement.

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?

2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?	All procurement is expected to be local.
3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will commodities be insured in the United States against marine risk with a company or companies authorized to do a marine insurance business in the U.S.?	N.A.
4. FAA Sec. 604(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?	N.A.
5. FAA Sec. 608(a). Will U.S. Government excess property be utilized wherever practicable in lieu of the procurement of new items.	Yes.
6. FAA Sec. 603. Compliance with requirement in Section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.	N.A.
7. FAA Sec. 621. If technical assistance is financed, to the fullest extent practicable will such assistance, goods and professional and other services from private enterprise, be furnished on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	No technical assistance per se; services of local A&E firm will be secured to supervise construction; detailed design work requirements to be met through GOP inter-governmental agreements.

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-flag carriers will be utilized to the extent such service is available? — N.A.

9. FY 80 App. Act Sec. (505). Does the contract for procurement contain a provision authorizing the termination of such contract for the convenience of the United States? — Project will not involve any procurement contracts.

B. Construction.

1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest? — Only local contractors are likely to be used in view of size of contracts. U.S. firms, however, are not precluded from competition.

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? — Yes.

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million? — N.A.

C. Other Restrictions.

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? — N.A.

2. FAA Sec. 301(d). If fund is established solely by U.S.? contributions and administered by an international organization, does Comptroller General have audit rights? — N.A.

3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries?	Yes.
4. FAA Sec. 636(i). Is financing not permitted to be used, without waiver, for purchase, sale, long-term lease, exchange or guaranty of motor vehicles manufactured outside the U.S.?	N.A.
5. Will arrangements preclude use of financing:	
a. FAA Sec. 104(f). To pay for performance of abortions as a method of family planning or to, motivate or coerce persons to practice abortions; to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization?	N.A.
b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property?	Yes.
c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?	N.A
d. FAA Sec. 662. For CIA activities?	Yes.
e. FY 80 App. Act Sec. (504). To pay pensions, etc., for military personnel?	Yes.
f. FY 80 App. Act Sec. (506). To pay U.N. assessments?	Yes.
g. FY 80 App. Act Sec. (507). To carry out provisions of FAA Section 209(d) (Transfer of FAA funds to multilateral organizations for lending)?	Yes.

h. FY 80 App. Act Sec. (511). To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields? Yes.

i. FY 80 App. Act Sec. (515). To be used for publicity or propaganda purposes within U.S. not authorized by Congress? Yes.

Annex G

CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, Anthony M. Schwarzwalder, the principal officer of the Agency for International Development in the Philippines, having taken into account, among other things, the maintenance and utilization of projects in the Philippines previously financed or assisted by the United States, do hereby certify that, in my judgement, the Philippines has both the financial capability and the human resources capability to effectively implement, utilize and maintain the proposed Clark Access Road and Feeder Roads Project.

This judgement is based upon the project analysis as detailed in the Clark Access Road and Feeder Roads Project Paper and is subject to the conditions imposed therein.

Anthony M. Schwarzwalder

Anthony M. Schwarzwalder
Director
USAID/Philippines

6 Aug. '81
Date