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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

HAITI

PROJECT PAPER

TARGETED WATERSHED MANAGEMENT
AMENDMENT NUMBER 1

AID/LAC/P-759
CR - 347

PROJECT NUMBER: 521-0191

UNCLASSIFIED

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

1

DOCUMENT CODE

3

2. COUNTRY/ENTITY

Haiti

4. BUREAU/OFFICE

USAID/Haiti

5

3. PROJECT NUMBER

521-0191

5. PROJECT TITLE (maximum 40 characters)

Targeted Watershed Management

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
 09 30 94

7. ESTIMATED DATE OF OBLIGATION
 (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 86

B. Quarter 4

C. Final FY 94

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 86			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total			1,500			15,700
(Grant)	(1,500)	()	(1,500)	()	()	()
(Loan)	()	()	()	()	()	()
Other U.S.						
1.						
2.						
Host Country		300	300		1,000	1,000
Other Donor(s)						
TOTALS	1,500	300	1,800			16,700

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN				14,887		700		15,700	
(2)									
(3)									
(4)									
TOTALS				14,887		700		15,700	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

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 EXTEND SOIL-CONSERVING AND FERTILITY-AUGMENTING LAND MANAGEMENT PRACTICES IN THE PIC MACAYA WATERSHEDS AND TO APPLY LESSONS LEARNED FROM THIS FIELD EFFORT TO NATIONAL-LEVEL HILLSIDE MANAGEMENT PLANNING.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final 06 94

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify) CACM

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

I have reviewed and approved the methods of implementation and financing for this project.

Robbin Burkhardt
 Acting Controller, USAID/Haiti

17. APPROVED BY

Signature

Lance Downing

Title

Acting Director, USAID/Haiti

Date Signed

MM DD YY
 08 24 92

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

**PROJECT AUTHORIZATION
AMENDMENT NO. 1**

Name of Country : Haiti
Name of Project : Targeted Watershed Management
Number of Project : 521-0191

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended the Targeted Watershed Management Project for Haiti was originally authorized on September 3, 1986. That authorization is hereby amended as follow:

Paragraph 1 of the authorization will be replaced by the following:

Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Targeted Watershed Management project for Haiti, involving planned obligations of not to exceed Fifteen Million Seven Hundred Thousands United States Dollars (US\$15,700,000) in grant funds over a eight-year period from the date of authorization, until September 30, 1994, subject to the availability of funds in accordance with the AID OYB and allotment process, to help in financing foreign exchange and local currency costs for the project.

2. The authorization cited above remains in force except as hereby amended.

Clearances:

PPS: SGregoire
MGilbert
PDI: GSpence
ADO: MFontaine
CONT: RBurkhart

SG
MS
GS
MF
RB

Date *8/25/92*
Date *8/25/92*
Date *8/25/92*
Date *08/24/92*
Date *8/24/92*

Approved: _____

Lance Downing
Lance Downing
Acting Director
USAID/Haiti

Date: _____

8/31/92

TARGETED WATERSHED MANAGEMENT PROJECT 521-0191

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LIST OF ACRONYMS

CA	Cooperative Agreement
DCCH	Developpement Communautaire Chretien d'Haiti
FAA	Foreign Assistance Act
GEF	Global Environmental Facility (World Bank)
IRD	Integrated Rural Development
ISPAN	Institut de Sauvegarde du Patrimoine National
IUCN	International Union for the Conservation of Nature and Natural Resou
LOP	Life of Project
MBR	Macaya Biosphere Reserve
NGO	Non-Governmental Organization
ORE	Organization for the Rehabilitation of the Environment
PACD	Project Assistance Completion Date
PST	Projè Sové Tè
PVO	Private Voluntary Organization
TAP	Techniciens Agricoles Polyvalents
TWM	Targeted Watershed Management project
UF	University of Florida
UNDP	United Nations Development Program
UNICORS	Union des Cooperatives de la Region du Sud
USAID	United States Agency for International Development

TARGETED WATERSHED MANAGEMENT PROJECT (521-0191) PROJECT PAPER AMENDMENT

I. Purpose and Objectives of the Amendment

From its inception in 1986, until the September 30, 1991 coup d'état, the Targeted Watershed Management (TWM) Project provided technical assistance and improved plant materials (food crop, forage, trees and grafted fruit trees) to more than 17,000 farmers in Southwest Haiti. Its purpose was to arrest the process of environmental degradation in the Pic Macaya watersheds through the extension of soil-conserving and fertility-augmenting land management practices. This watershed supplies water to seven rivers which irrigate the "Plaine des Cayes", one of the most productive agricultural regions in Haiti. The project also encompassed the establishment of the Macaya Biosphere Reserve. Parc Macaya and its 2,347 meter summit (Pic Macaya) contain a rich and varied range of fauna and flora, including some species unique to this area. Indeed, Parc Macaya is noteworthy as possessing one of the highest rates of biological diversity in the world. Relatively undisturbed until recently, many of these species are now endangered due to the intense deforestation which has begun in this area.

The current socio-economic crisis, mainly the decrease of purchasing power and the loss of agricultural exports, has intensified the pressure on the park's natural resources. The suspension of the TWM project, along with most of the USAID program in Haiti, immediately after the 1991 coup, left the buffer zone farmers without much needed assistance. Although relatively few farmers actually live within the park, natural habitats are being destroyed as a result of fire-clearing and indiscriminate tree cutting. Ecological damage to the area is threatening both the unique bio-diversity in the park and the potential for agricultural production in a much wider area of the southwest. Parc Macaya also offers unique value as a watershed, as it constitutes the upper reaches of seven river basins, irrigating some the most fertile and productive agricultural land in the country.

If the present degradation is allowed to continue, the deforestation of the Macaya area will result in irreversible consequences for agricultural production in the entire southwest peninsula, in the form of increased soil erosion, silting of irrigation systems and the loss of water and hydroelectric power in the agriculturally rich Plaine des Cayes. The western portion of the southern peninsula has the most favorable moisture regime for the entire country. The Plaine des Cayes is an area of surplus production which is marketed throughout the country, primarily Port-au-Prince. As a result of this moisture regime advantages, this Plaine is the usual national source of emergency food for the food deficit areas. Thus the objective of the this activity goes

well beyond the preservation of Haiti's last natural rain forest, a worthy goal in itself, but it also seeks to preserve the watershed for the vital Plaine des Cayes agricultural production area and by extension the livelihood of thousand of farmers and rural residents of the Southwest.

The World Bank has designed a US\$40 million project for the protection of natural resources in Haiti, including Parc Macaya. Unfortunately, all negotiations between the World Bank and the GOH ceased after the coup of September 1991. This amendment is providing a mechanism for bridge funding to the prospective World Bank project.

The objective of this amendment is to:

- * Extend the PACD by two years (October 1, 1992 to September 30, 1994); and
- * Increase the Authorization Level by \$750,000 from \$15,000,000 to a new total of \$15,750,000.

The overall goal and purpose of the TWM Project remain unchanged (see Logframe - Annex A). Since the sole remaining component over the two-year extension period is the Parc Macaya activity, a sub-goal and sub-purpose specific to Macaya have been added, as follow:

The sub-goal is:

To provide continued support for the preservation of the Parc Macaya as the last natural rain forest in Haiti.

The sub-purpose is:

To achieve the protection and reclamation of Parc Macaya's critical areas and provide technical assistance to the farmers living in the buffer zone in order to decrease ecological pressure on the Park.

The amendment provides for:

- * The production and planting of 600,000 upland native and/or endemic tree species in the Park, using the local farmers as the labor force;
- * The reclamation of 12 km of critical ravines located in the park, the repair and maintenance of critical sections of the access road to Pic Formond in order to facilitate service delivery to the farmers and access to the park headquarters. Local farmers will be used as labor; and
- * The reactivation of the training and environmental awareness program (for local farmers), the strengthening of the

"Association pour la Protection du Parc Macaya", and the provision of minimal technical assistance to the farmers in the buffer zone on productive land use and agricultural practices.

With this continued support for the protection of Parc Macaya, the project will contribute to the preservation of the bio-diversity of one of the last vestiges of tropical forest in Haiti and promote the continued fertility and productive capacity of the Les Cayes Plaine.

II. Background for the Amendment

The Targeted Watershed Management Project (TWM) (521-0191) was authorized on September 3, 1986 with an LOP funding level of \$15,000,000 and a PACD of September 30, 1992. It was designed to arrest the process of environmental degradation in Southwest Haiti. Its specific purpose was to extend soil-conserving and fertility-augmenting land management practices in the Pic Macaya watersheds, in order to increase farmer income, and apply lessons learned to national-level land management planning.

The original project comprised two components, "Projè Sové Tè (PST)" and the Macaya Biosphere Reserve (MBR). PST was implemented by four primary grantees:

Developpement Communautaire Chretien d'Haiti (DCCH),
Integrated Rural Development (IRD),
Organization for the Rehabilitation of the Environment (ORE),
Union des Cooperatives de la Region du Sud (UNICORS).

Under contract with the Mission, a US firm, Associates in Rural Development (ARD), based in Burlington, Vermont, played the role of Umbrella agency and provided technical and administrative assistance to the PST implementors.

The University of Florida (UF) was responsible for the implementation of the MBR, whose aim was to protect and rehabilitate the natural ecosystems, biological diversity and natural resources of Parc Macaya and the surrounding areas. MBR included research and rehabilitation activities in the core zone of the park, as well as the provision of technical assistance to 1,750 farmers living in the park's periphery. Although the Project Assistance Completion Date (PACD) is September 30, 1992, all the Cooperative Agreements (CAs) had an estimated completion date of March 31, 1992.

The military coup of September 30, 1991 triggered the suspension of all project activities under Section 513 of the Foreign Assistance Appropriations Act of 1991. In January 1992, the USAID Agricultural Development Office (ADO) determined that several activities needed to be reactivated in order to avoid losing the

benefit of assistance already provided. On February 11, 1992, the Mission Director authorized the completion of the IRD veterinary program and the extension of the ORE grant to May 31, 1992, under Section 617 of the FAA. Shortly thereafter, ORE submitted to the Mission a proposal for "Seed Production and Multiplication." After a preliminary review of the proposal, the Mission determined that the seed production and multiplication activity was relevant to the Mission's post-coup humanitarian program. Therefore, the ORE grant was reactivated under the authority of Section 123 (e) of the FAA. After a formal review of the proposal, the Mission decided to support the first phase of the program through the current PACD of TWM, September 30, 1992. ORE's CA was amended accordingly.

On April 20, 1992, the Mission Director authorized, under Section 617 of the FAA, the wind-up of activities of three grantees (IRD, UNICORS and UF) through May 31, 1992. Wind-up activities for DCCH were not deemed necessary, as USAID-funded resources were not at risk. In May 1992, the Cooperative Agreements for DCCH, IRD and UNICORS CAs were further extended to September 30, 1992 to accommodate required final audits.

The USAID Grant to UF for the establishment of the Macaya Biosphere Reserve terminated, as scheduled, on May 31, 1992. The other four TWM grantees still have on-going CAs with the Mission (DCCH, IRD and UNICORS for audit purpose, and ORE for the first phase of the Seed Production and Multiplication program). By the end of this Fiscal Year, the Unsolicited Proposal submitted by ORE for Seed Production and Multiplication becomes a new project. Although ORE had a small seed multiplication unit under TWM, a larger scale seed production and multiplication activity did not fall within the scope of the TWM Project, yet it was considered important enough to justify a separate project.

III. Rationale for the Amendment

A. The Case for Preserving Parc Macaya

The termination of the UF grant to help preserve Pic Macaya has left the farmers in the buffer zone without direct technical assistance, though the University will continue research activities in the core zone and the development of training materials through an independent MacArthur Foundation grant. The proposed support activities in the buffer zone aim at decreasing direct pressure on the park by assuring the sustainable development of the watershed area through the promotion of productive agriculture. Without such support, the destruction of the park forest cover and wildlife habitat is inevitable. In fact, in the relatively short time since the suspension of work in the park, encroachment is firmly apparent, and deforestation has begun.

At the present time, USAID is the only donor with a project aimed at the protection of Pic Macaya. In June 1983, the Government of

Haiti set aside as a national park (Parc Macaya) 2,000 hectares located in the "Massif de la Hotte". Since then, USAID funded several activities for the establishment and protection of the Park. USAID funded ISPAN (Institut de Sauvegarde du Patrimoine National) and the Ministry of Agriculture through PL-480 funds to define the park boundaries and establish basic protective infrastructure. It supported technical assistance to ISPAN by University of Florida and IUCN (International Union for the Conservation of Nature and Natural Resources). Nevertheless, the most important USAID grant for preservation work in Parc Macaya is the UF activity for the establishment of the Macaya Biosphere Reserve.

Although all negotiations between the World Bank and the GOH for the US\$40 million natural resources protection project ceased after the coup of September 1991, the Bank is still interested in the project, and planning for the project is expected to resume when the political situation permits. Thus, there is reason to believe that long-term resources are likely to be available for the continued preservation of this unique ecological asset. However, the actual implementation of this World Bank initiative may be at least one or two years away, and Pic Macaya cannot wait. It needs immediate attention to avoid irreversible damage, leading directly to the loss of Haiti's last remaining rain forest, the unique biodiversity of the region and the destruction of the watershed for the most fertile land in the southwest. This project is providing a mechanism for the highly needed bridge funding.

In the absence of any current preservation activity in the Park or buffer zone, potentially destructive encroachment has already begun. Experience suggests that such acts will become progressively bolder, if the perpetrators meet with no resistance. On the positive side, experience also suggests that such invasive practices do not occur when there is a continuous presence of organized preservation activities. In other words, quite apart from the value of the land use measures introduced, the mere presence of a preservation activity discourages indiscriminate tree-cutting and land clearance.

The USAID/Haiti grant to UNICORS will be extended to implement these activities. Among the five (5) TWM grantees, UNICORS is deemed to be the only suitable and eligible organization available to undertake the proposed activities for Pic Macaya. As a PST implementor, UNICORS proved to be very effective in undertaking agricultural extension activities and in tree planting, both activities which are basic to future work in Parc Macaya. UNICORS operates two nurseries and had outreach extension activities in parts of the buffer zone. Per the mid-term report of ARD, the PST Umbrella Agency, "farmers working with UNICORS have installed 71% of the total PST contour conservation measures. UNICORS has produced more trees than any of the other PVOs (57% of all PST trees have been produced by UNICORS nurseries)". It has an on-

going USAID Cooperative Agreement with a projected pipeline of \$280,000 as of September 30, 1992.

The Cooperative Agreement with the University of Florida (UF), the former implementor of the Macaya Biosphere Reserve, ended in May 1992 after being in suspension since the 1991 coup. UF does not qualify to as an eligible organization (PVO) under Section 123(e) of the Foreign Assistance Act to continue under present circumstances. DCCH, IRD and ORE also have on-going CAS with the Mission and are registered PVOs. However, the first two have not operated in the park buffer zone and thus have no familiarity with farmers in the zone, which puts them at a comparative disadvantage as a prospective agent for this project. ORE did have activities in the buffer zone, but the Mission is supporting ORE in a substantial new project in seed production and multiplication. In the Mission's view, it would not be wise to stretch the institutional capability of the small ORE organization by asking it to carry out both activities simultaneously, for fear of diluting the management span of ORE to the detriment of both projects.

B. Institutional Background of UNICORS.

UNICORS is a Haitian PVO headquartered in Chardonnières, in the western portion of the southern peninsula. Founded over 25 years ago, it coordinates the activities of 8 coffee cooperatives with a total membership of approximately 15,000 people. It covers the area lying from the coasts of Port Salut and Tiburon to the edge of Macaya buffer zone. UNICORS is dedicated to community development through economic activity.

UNICORS has utilized its large-scale presence in the area as the basis for its PST organization and activities, although the project-related activities are treated as a separate program within the overall structure of the NGO. Its extension/outreach approach has centered on choosing and training lead farmers or TAPs (Techniciens Agricoles Polyvalents) to carry out demonstration activities on their own lands and to work with their neighbors to encourage the activities throughout the watershed area. The PST-related functions of UNICORS were carried out by an agronomist, assistant agronomist, 4 to 6 technicians each of whom interacts with 4 to 8 TAPs, who in turn work with up to 80 farmers each. Because of the availability of cooperative lands, UNICORS has been involved in plant multiplication and seedlings production as an adjunct to its extension activities.

All extension activities are planned through consultation and in association with the farmers. Three main activities constituted the major thrust of UNICORS conservation strategy: establishment of erosion control structures, reforestation, and composting. Revenue-earning activities included the improved management of "Jadin Lakou", which involved work with women farmers, and livestock rearing. UNICORS imported from the Dominican Republic a

small pure breed herd (sheep) which is used to genetically improve local stock.

IV. Summary of the Amended Project

The Goal of the TWM Project is to arrest the process of environmental degradation in Southwest Haiti. The project purpose is to extend soil conservation and fertility-augmenting land management practices in the Pic Macaya watershed and to apply lessons learned from these field interventions to national-level hillside management planning. Specifically, the amended project aims at decreasing pressure on the Parc Macaya resources through direct technical assistance to about 1,500 local farmers living in the park periphery.

Since the "Projè Sové Tè" (PST) component of the TWM project is ending as scheduled on September 30, 1992, the Parc Macaya initiative will constitute the only remaining component. Parc Macaya activities will encompass:

- * **The planting of 600,000 upland native and/or endemic tree seedlings in critical areas of the park.** UNICORS will reactivate two of the nurseries (one in Formond, one in Rivière Trois Sources) to produce annually 305,000 tree seedlings. These will be the species previously identified by the University of Florida as most suitable for the park. The trees will be planted in the park's critical areas, in order to reestablish the natural vegetation. In Formond, UF has recorded forty avalanches, some as long as 2 km and as wide as 25 meters. UNICORS will use the local farmers, especially women in the nurseries, as its labor force for these activities. The survival rates of the newly planted trees will be closely monitored during the remaining project life.
- * **The reclamation of 12 km of the critical ravines in the park.** The University of Florida has identified several gullies to be reclaimed in an area which receives more than 3 meters of rainfall annually. This gully control activity will allow the safe evacuation of the excess runoff. This program targets only those gullies created by human disturbance of the natural vegetation. With the reestablishment of the natural vegetation, these gullies will eventually be recuperated. UNICORS will build both mechanical structures (at least 200 check dams) and biological structures (tree and grass species). Only tree and grass species recommended by UF will be used, in order to avoid unnecessary competition with the native vegetation. Again, the farmers living in the buffer zone will constitute the work force;
- * **The reactivation of the training and environmental awareness program.** UF initiated for the local families (farmers and school children) an environmental awareness program. UNICORS

will continue this program with emphasis on the short-term importance of the park. For example: the impact of the cloud forest on moisture availability and on micro-climate for agriculture, especially vegetable production in the buffer zone.

UNICORS will contribute to strengthen the "Association pour la Protection du Parc Macaya". Initiated by the University of Florida, this association aims at promoting among local residents an understanding of the importance of preserving the Park natural resources. The association will serve as a mechanism to train and motivate local farmers and to disseminate among them the natural resources protection techniques and practices. It will also act a local pressure group to defend the park interests, since the buffer zone farmers are the first beneficiaries of the park natural resources.

- * **The provision of technical assistance to the buffer zone farmers families.** Farmers living in the park periphery are engaged in agricultural production. Sometimes they infringe on the park through slash-and-burn practices in search of new production sites. Their animals graze freely in the core zone, causing soil consolidation through trampling. UNICORS will work with these farmers (especially those of Formond, Rivière Trois Sources and Du Glacis) on implementing productive land use and agricultural practices. This will ensure sustainable increase of crop production and farmer income in the buffer zone, therefore decreasing the farmers' motivation to encroach on the park. Special attention will be paid to grass production for animal forage to decrease grazing in the park. UNICORS will continue to promote the higher value cash crops introduced in these areas under the PST, including vegetables through the "Jadin LaKou" (vegetable gardens). Ninety (90) are planned for the extension period. More than 90% of the beneficiaries of the Jadin Lakou will be women; and

- * **The repair and maintenance of critical sections of the access road to Formond.** This road is essential for services delivery to the farmers and access to the park headquarters. Due to the high rainfall in the watersheds, it needs repair and regular maintenance of the very critical sections. The level of maintenance will be minimal, sufficient only to ensure continued access with four wheel drive (4x4) vehicles. No engineering or road-building machinery will be used. Local farmers will be employed as labor for all the repair and maintenance works, such as the cleaning of culverts and drainage ditches.

TARGETED WATERSHED MANAGEMENT PARC MACAYA PROTECTION TARGETS

I. PARK PROTECTION	1993	1994	TOTAL
Tree Production	500,000	300,000	800,000
Tree Plantation	200,000	400,000	600,000
Gully Plugs (check dams)	110	90	200
Ravines Protected (Km)	8	4	12
Job Created (pers./day)	15,000	12,000	27,000

II. INCOME/PRODUCTION ENHANCEMENT	1993	1994	TOTAL
Vegetable Gardens	30	60	90
Forage Multiplication Plots	3	0	3
Forage Pasture (hectares)	20	20	40
Forage Hedgerows (Km)	20	40	60
Cash Crop Demonst. Plots	8	8	16

III. TRAINING	1993	1994	TOTAL
No. Farmer's families Trained	500	900	1100
Field Agent (Training/Sessions)	5	4	9
Sr. & Jr. Staff Training	1	1	1

These activities will supplement the work undertaken by UF with the MacArthur Foundation Grant and the environmental awareness radio program funded by UNDP. It will also provide valuable assistance to farmers in the park periphery until the comprehensive \$40 million World Bank environmental project is finally launched.

The Mission will continue discussions with the other donors, especially with the UNDP Environmental Coordinating Unit in order to assure continued support for the protection of Parc Macaya, in the event that the World Bank Project is delayed. One alternate source of funding is the Global Environmental Facility (GEF) which is administered locally by UNDP. Since Parc Macaya protection has a global dimension because of its biological diversity, it is clearly eligible for prospective GEF funding.

Three hundred thousand dollars (US\$300,000) will be earmarked as a buy-in to one of the centrally funded bio-diversity projects managed by AID/W. This will ensure the linkage between UNICORS and one of the leading US environmental institutions with expertise in biosphere reserve. UNICORS access to technical assistance will be greatly enhanced through this mechanism. An amount of US\$40,000 is also budgeted for short-term training of UNICORS staff.

One of the weaknesses of the PST was insufficient monitoring of project field activities. The Mission monitoring visits (Project Officer/Manager, Project Coordinator) covered less than 10% of field outputs. To adequately evaluate project achievements and assess its effectiveness, the Mission needs statistically significant information and data gathered by an institution other than the implementor. Therefore, the Mission will contract with a local firm to carry out periodic monitoring and evaluation of these activities, beginning shortly after the first semi-annual report. This will ensure that project activities respond to design requirements, while assisting the project manager/implementor in assessing the impact of project interventions on the Parc Macaya and on the buffer zone farmers. Timely mid-course corrections can be introduced accordingly.

V. BUDGET

TARGETED WATERSHED MANAGEMENT PROJECT

PARC MACAYA PROTECTION

UNICORS BUDGET

	FY 93		FY 94		TOTAL	
	Local Costs	US Dollars	Local Costs	US Dollars	Local Costs	US Dollars
SALARIES						
Personnel	130,000.00	3,000	150,000.00	0.00	280,000.00	0.00
Consultants	5,000.00	20,000.00	0.00	0.00	5,000.00	20,000.00
TRAVEL & PER DIEM						
	3,000.00	4,000.00	4,000.00	4,000.00	7,000.00	8,000.00
EQUIPMENT						
	2,000.00	3,000.00	2,000.00	2,000.00	4,000.00	5,000.00
COMMODITIES & SUPPLIES						
	31,000.00	3,000.00	12,000.00	2,000.00	43,000.00	5,000.00
OPERATING EXPENSE						
Local Labor	58,000.00	6,000.00	45,000.00	6,000.00	103,000.00	12,000.00
Local Labor	50,000.00	0.00	50,000.00	0.00	100,000.00	0.00
Training	0.00	25,000.00	0.00	15,000.00	0.00	40,000.00
AUDIT						
	15,373.00	10,000.00	15,372.00	10,000.00	30,745.00	20,000.00
TOTAL CA						
	294,373.00	71,000.00	278,372.00	39,000.00	572,745.00	110,000.00
SUB-TOTAL						
		365,373.00		317,372.00		682,745.00

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TARGETED WATERSHED MANAGEMENT PROJECT

PARC MACAYA PROTECTION

BUDGET

	FY 93		FY 94		TOTAL	
	Local Costs	US Dollars	Local Costs	US Dollars	Local Costs	US Dollars
SALARIES						
Personnel	130,000.00	0.00	150,000.00	0.00	280,000.00	0.00
Consultants	5,000.00	20,000.00	0.00	0.00	5,000.00	20,000.00
TRAVEL & PER DIEM						
	3,000.00	4,000.00	4,000.00	4,000.00	7,000.00	8,000.00
EQUIPMENT						
	2,000.00	3,000.00	2,000.00	2,000.00	4,000.00	5,000.00
COMMODITIES & SUPPLIES						
	31,000.00	3,000.00	12,000.00	2,000.00	43,000.00	5,000.00
OPERATING EXPENSE						
Local Labor	58,000.00	6,000.00	45,000.00	6,000.00	103,000.00	12,000.00
Training	50,000.00	0.00	50,000.00	0.00	100,000.00	0.00
	0.00	25,000.00	0.00	15,000.00	0.00	40,000.00
AUDIT						
	15,373.00	10,000.00	15,372.00	10,000.00	30,745.00	20,000.00
TOTAL CA						
	294,373.00	71,000.00	278,372.00	39,000.00	572,745.00	110,000.00
AID MANAGEMENT						
Monitoring & Evaluation	30,000.00	0.00	80,000.00	0.00	110,000.00	0.00
Buy-in	0.00	300,000.00	0.00	0.00	0.00	300,000.00
SUB-TOTAL						
	324,373.00	371,000.00	358,372.00	39,000.00	682,745.00	410,000.00
TOTAL		695,373.00		397,372.00		1,092,745.00

**TARGETED WATERSHED MANAGEMENT PROJECT
MASTER BUDGET**

	OBLIGATED 09-92		UNICORS PROJECTED UNLIQUIDATED PIPELINE (09-92)	FY 93		FY 94		TOTAL	
	Local Costs	US Dollars		Local Costs	US Dollars	Local Costs	US Dollars	Local Costs	US Dollars
SALARIES									
Personnel	3,057,498.00	571,186.00		130,000.00	0.00	150,000.00	0.00	3,057,498.00	571,186.00
Consultants				5,000.00	20,000.00	0.00	0.00	5,000.00	20,000.00
TRAVEL & PER DIEM									
	113,403.00	73,171.00		3,000.00	4,000.00	4,000.00	4,000.00	113,403.00	81,171.00
EQUIPMENT									
	85,562.00	425,936.00		2,000.00	3,000.00	2,000.00	2,000.00	85,562.00	425,936.00
COMMODITIES & SUPPLIES									
	689,054.00	313,271.00		31,000.00	3,000.00	12,000.00	2,000.00	689,054.00	313,271.00
OPERATING EXPENSE									
Local Labor	1,028,790.00	520,566.00		58,000.00	6,000.00	45,000.00	6,000.00	1,028,790.00	520,566.00
Training	N/A	N/A		50,000.00	0.00	50,000.00	0.00	N/A	0.00
EVALUATION	N/A	N/A		0.00	25,000.00	0.00	15,000.00	N/A	40,000.00
Audit	77,127.00	8,121.00		0.00	0.00	0.00	0.00	77,127.00	8,121.00
	0.00	0.00		15,373.00	10,000.00	15,372.00	10,000.00	0.00	20,000.00
TOTAL PSTCAs	5,051,437.00	1,912,251.00	(280,000.00)	294,373.00	71,000.00	278,372.00	39,000.00	5,051,437.00	1,912,251.00
UNIV OF FLORIDA CA	0.00	1,855,240.00		N/A	N/A	N/A	N/A	0.00	1,855,240.00
UMBRELLA AGENCY ARD	0.00	5,017,036.00		N/A	N/A	N/A	N/A	0.00	5,017,036.00
AID MANAGEMENT									
Project Coordinator	265,168.00	13,196.00		0.00	0.00	0.00	0.00	265,168.00	13,196.00
Studies, Monitoring & Eval.	0.00	541,478.00		30,000.00	0.00	80,000.00	0.00	0.00	441,478.00
Training	0.00	231,452.00		0.00	0.00	0.00	0.00	0.00	231,452.00
Buy-in	0.00	0.00		0.00	300,000.00	0.00	0.00	0.00	300,000.00
SU3-TOTAL	5,316,602.00	9,570,653.00	(280,000.00)	324,373.00	371,000.00	358,372.00	39,000.00	5,316,602.00	9,570,653.00
GRAND TOTAL		14,887,255.00	(280,000.00)		695,373.00		397,372.00		15,700,000.00

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Operational costs include maintenance of four 4-wheel-drive vehicles purchased with project funds, but no new vehicles will be purchased. Under the current Cooperative Agreement with UNICORS, a balance of more than \$280,000 will remain by September 30, 1992. Therefore, approximately \$430,000 in additional funds will be obligated to UNICORS under this amendment.

Of the original authorization level of \$15,000,000, obligations of \$14,887,255 have already taken place, leaving a balance of \$112,745 available for obligation prior to this amendment. The \$700,000 increase in the total authorization will accommodate the balance of new budget necessary to carry out the project as per the Parc Macaya Protection financial plan.

REVISED LOGICAL FRAMEWORK

TARGETED WATERSHED MANAGEMENT
(521-0191)

(Parc Macaya Component Only - 1992-94)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Goal:</p> <p>To arrest the process of environmental degradation in Southwest Haiti.</p> <p>Sub-Goal: To provide continued support for the preservation of Parc Macaya as the last natural rain forest in Haiti.</p>	<p>The Pic Macaya rain forest remains largely intact</p> <p>The rich range of bio-diversity in the Macaya Biosphere Reserve remains largely intact</p> <p>Soil erosion in project area is significantly reduced</p> <p>Macaya watersheds continue to serve the 7 rivers which irrigate the Plaine des Cayes</p>	<p>-Visual inspections of Parc Macaya by NGOs, GOH and international environmental groups</p> <p>-World Bank and FAO estimates</p> <p>-USAID Monitoring Unit findings</p>	<p>Assumptions for Achieving Goal Targets:</p> <p>-Sufficient political stability exists in Haiti to allow project activities to be carried out as planned.</p> <p>-Climate and rainfall levels do not vary markedly from historic patterns.</p>
<p>Purpose:</p> <p>To extend soil conservation and fertility-augmenting land management practices in the Pic Macaya watersheds and to apply lessons learned from these field interventions to national level hillside management planning.</p> <p>Sub-purpose: To instill better land-use practices by the farmers of the Parc Macaya buffer zone, in order to reduce ecological pressure on the Park.</p>	<p>End-of-Project Status:</p> <p>Increased acres forested and planted in Parc Macaya</p> <p>Collective public awareness is raised markedly regarding the importance of preserving the Parc Macaya forest and watershed</p> <p>At least 600,000 tree planted in the park</p> <p>1,500 farmers in the park periphery reached by project extension management activities</p>	<p>-National and regional agricultural and rural income statistics</p> <p>-Semi-annual reports by UNICORS</p> <p>-UNICORS field records</p> <p>-Project evaluations</p>	<p>Assumptions for Achieving Project Purpose:</p> <p>-GOH policy permits NGOs and PVOs to operate independently in Haiti.</p> <p>-Planning for the World Bank environmental project, interrupted by the 1991 coup, will resume in time to permit a start-up of Bank-financed activities in Macaya by 1994.</p> <p>-The mix of project interventions will be sufficient to stop encroachments into Parc Macaya for tree-cutting and land clearing.</p>

Outputs:	Magnitude of Outputs:		Assumptions for Achieving Project Outputs:
<p>1. Systematic planting of upland native and endemic tree seedlings in critical areas of Parc Macaya</p> <p>2. Reclamation of critical ravines in the park to control gully erosion</p> <p>3. Farmers living in the area of the park trained in environmental awareness and Association pour la Protection du Parc Macaya established and functioning</p> <p>4. Farmers operating in the park periphery trained in productive land use techniques, including grass production to reduce animal forage</p>	<p>400,000 trees planted in 1993 and 200,000 in 1994</p> <p>12 km of ravines protected 200 gully plugs placed</p> <p>1,100 farmers trained 9 field agent training sessions conducted</p> <p>90 km of hedgerows placed</p> <p>2 forage multiplication plots established</p> <p>8 cash crop demonstration plots developed</p> <p>90 vegetable gardens operating</p>	<p>-UNICORS records</p> <p>-Monitoring Unit reports</p> <p>-on-site inspections by USAID PADO staff</p> <p>-Field visits by USAID PADO staff</p> <p>-Project evaluations</p>	<p>-Farmers in the Park zone will agree to contribute their labor for tree planting, gully reclamation and access road maintenance, recognizing these as valuable self-help measures.</p> <p>-Farmers will be willing to pursue land conservation techniques introduced under the project, recognizing their prospective value.</p> <p>-Farmers will be receptive to project training opportunities and environmental awareness efforts.</p>

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Inputs:	Magnitude of Inputs:		Assumptions for Providing Inputs:
<p>Technical Assistance</p>	<p>144 pers/mos of TA by UNICORS staff</p> <p>7 pers/mos of S-T consulting by an int'l environmental organization thru buy-in arrangement</p>	<p>UNICORS Cooperative Agreement</p> <p>Project evaluations</p>	<p>-Linkages with appropriate international environmental organizations can be developed thru AID/W buy-in arrangements, as a source of short-term consultation.</p>
<p>Equipment & Supplies</p>	<p>Tree seedlings</p> <p>Farm tools, seeds</p> <p>Educational materials</p>	<p>Procurement records</p>	<p>-Existing equipment already procured by the TWM project can be effectively used and maintained by UNICORS.</p>
<p>Training & Extension</p>	<p>UNICORS extension agents & consultants</p> <p>Staff travel in-country</p>	<p>USAID monitoring records</p>	
<p>Operations & Maintenance</p>	<p>Labor supplied by local farmers</p> <p>Vehicle maintenance</p>	<p>Training records</p>	

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TARGETED WATERSHED MANAGEMENT
521-0191
PROJECT ACHIEVEMENTS THRU MARCH 31, 1992

PLANNED	ACHIEVED
<p>Increase food crop production</p>	<p>Multiplication and promotion of improved plant materials for crops such as corn, bean, sorghum, sweet potato, yam. The promotion and adoption of techniques such as zero tillage, cover crops, compost etc. had a significant impact on productivity.</p> <p>Many farmers have adopted Tapato which yields 50% more than the other sweet potatoe varieties.</p> <p>Farmers observed yields increased up to 65% from the certified corn and beans promoted by the Project. Yield of corn grown in association with cover legumies increased approximatly fourfold.</p> <p>Fruit tree production projections also indicate significant income increase.</p>
<p>Increase potential export crop production</p>	<p>Varieties introduced by the project have reached local and export markets. Farmers have exported over 18,000 lbs. of hot pepper per month before the political crisis.</p> <p>Export contracts were developed before the crisis for crops like late bearing avocadoes (61,000 trees grafted) nearing production, smooth skinned chayotte.</p>

PROJECT ACHIEVEMENTS THRU MARCH 31, 1992 (Cntd.)

PLANNED	ACHIEVED
Increase vegetative rates	<p>Many farmers have adopted the use of velvet beans as cover crops, that of calliandra and other tree species as well as some soil conservation techniques as part of their agricultural system.</p> <p>Farmers are voluntarily, without project encouragement, planting grass hedgerows, and disseminating plant material among themselves.</p>
Increase livestock holdings per family	27 pure breed sheep and goat have been imported by (UNICORS, ARD and IRD) to establish cross breeding stations in order to genetically upgrade the creole stock.
Creation of a Biosphere Reserve at Macaya mountain peak	<p>Population dynamics field research was completed.</p> <p>Mapping of park and boundary marking was initiated while the stabilization of critical landslide sites continued.</p>

**TARGETED WATERSHED MANAGEMENT
521-0191
MAJOR OUTPUTS THRU MARCH 31, 1992**

**PLANNED
LOP**

**ACTUAL
CUM. % OF LOP**

SITE SPECIFIC INTERVENTIONS (SSI)

Site specific interventions developed	20	10	50
Farmers managed on-farm trials (Ha.)	700	2158	225
Grafted fruit trees (dist. & on-site)	250,000	387,052	155
Demonstration plots	80	320	400

MOTIVATIONAL STRATEGIES

Farmer groups organized	256	899	351
Extension of SSI* to farmers (No. of farmers)	20,000	15,214	76
Field days (group demonstrations)	98	1,393	1,421

INSTITUTIONAL RESOURCE FLOW CHANNELS

Fruit tree nurseries (new)	2	66	3,333
Monitoring of market feedback and spread effects (annual reports)	(Specific reports)	2	N/A
Seed and plant multiplication sites	N/A	69	N/A

MAJOR OUTPUTS THRU MARCH 31, 1992 (Cntd.)

PLANNED
LOP

ACTUAL
CUM. % OF LOP

TRAINING (NO. OF PERSONS)

In-Country Technicians (M) (F) TOTAL	<u>**</u> 750	821 <u> 9</u> 830	111%
Short-term overseas (M) (F) TOTAL	<u>**</u> 35	74 <u> 2</u> 76	231%
Long-term Overseas	8	4	50%
No. of farmer participants in structured training (M) (F) TOTAL		3,470 <u> </u> 3,470	