PD-ABT-488
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Withdrawn/DESK

GHANA FAMILY PLANNING AND HEALTH

(FPHP) HIV/AIDS CONTROL AMENDMENT

(641-0118)

PROJECT PAPER AMENDMENT

UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO GHANA

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ACTION MEMORANDUM FOR THE A.I.D. REPRESENTATIVE

Date: August 13, 1991

From: Edward Birgelis, PRM

Subject: Ghana Family Planning and Health (FPHP)
HIV/AIDS Control Amendment (641-0118)

I. PROBLEM

Your approval is requested for a four-year grant of $5,000,000 from the Development Fund for Africa (DFA) appropriations to the Ghana Family Planning and Health Project: HIV/AIDS Control amendment. The total A.I.D. Life-of-Project (LOP) funding is $15,500,000. The planned FY91 obligation is $5,350,000. This figure includes $3.6 million for AIDS and $1.75 million for the other activities of the Family Planning and Health Project. In addition, an OYB transfer of $2.34 million has been made to the Science and Technology Bureau's Commodities and Program Support Division for the Central Contraceptive Procurement Project (936-3057).

II. DISCUSSION

The ECPR meeting of the FPHP recommended that USAID/Ghana amend the FPHP project to include an HIV/AIDS activity in view of the close relationship between HIV/AIDS prevention and control activities and the planned social marketing of condoms. The ECPR guidance cable (90 State 346936) provided USAID/Ghana with the African Bureau delegation of authority to approve the amendment to the subject project authorization and HIV/AIDS interventions costing up to $5,000,000 over the current six year LOP.

The attached Project Paper supplement is prepared in accordance with the ECPR guidelines.

The HIV/AIDS amendment is a $5.0 million, four-year sub-project of the Family Planning and Health Project (FPHP). The new goal of the FPHP with the amendment is: To lower fertility of the Ghanaian population through maternal and child health interventions, and to reduce the spread of HIV/AIDS. The purpose of the project is (1) to increase the use of and demand for family planning through expanding the public and private sector

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capacity for providing family planning and maternal and child health services and supplies, and (2) to assist the GOG National AIDS Control Program (NACP) increase the effectiveness of its campaign through activities in four areas: Information, Education and Communication (IE&C), Laboratory Support, Health Information System (HIS) and Building Government Cognizance in order to obtain GOG commitment to reduce the transmission of HIV/AIDS.

The development of FPHP HIV/AIDS control amendment follows the A.I.D. policy guidance which indicates that A.I.D. recognizes the worldwide leadership role of the WHO in combatting HIV/AIDS. It also conforms to current African Bureau policies which encourages the development of bilateral HIV/AIDS projects into existing family planning and health projects.

The project also fits within the overall strategy of the GOG National AIDS Control Program. Activities also complement the other major donors in the AIDS fields; namely, WHO, UNDP, Swedish International Development Agency, and GTZ.

Acquired Immunodeficiency Syndrome, better known as AIDS has spread rapidly throughout the world since its discovery in 1981 and has become a public health problem of extraordinary scope and of unprecedented urgency. It is a deadly and incurable disease.

AIDS was first diagnosed in Ghana in 1986 when 26 cases were detected. It has increased to more than 2,200 confirmed cases by the end of 1990. Despite the rapid rise, these numbers seriously underestimate the prevalence of AIDS cases in Ghana, since confirmatory blood tests are required for a case to be reported but often are not available. No one knows the true number of how many Ghanaians have been infected by HIV but have not yet developed full blown AIDS. Studies indicate that between 0.5% and 4% of adult Ghanaians currently carry the virus.

Significant constraints that must be addressed to ensure success for future HIV/AIDs prevention and control programs are:

(a) Managerial and infrastructural weakness of the Ministry of Health. These are even more apparent in the diagnostic laboratory system. Because of a decade of neglect, the Public Health Reference Laboratory is almost non-functional. Few qualified laboratory specialists exist in country and the laboratories lack equipment.

(b) GOG management constraints such as MOH budgetary and staff shortages, and incomplete inter-ministerial cooperation and collaboration and information gathering and use.

(c) The lack of awareness in the general population of the urgency to prevent and control the spread of AIDs.

The GOG recognizes the potential impact of the HIV/AIDS epidemic and is collaborating with the World Health Organization Global Programme on AIDS (WHO/GPA), and has formed the National AIDS Control Program (NACP) as a subdivision of the MOH Epidemiology Division. A short-term plan for HIV/AIDS prevention and control was promulgated in 1987 and organizational framework for the NACP management structure has been established. However, budgetary resources to support the NACP program are very limited and assistance has been mainly from donors.

WHO has been the lead organization for the control and prevention of AIDS. Initial efforts in Ghana have been limited due to the scarcity of its resources. USAID however, has provided approximately $1.3 million to the National AIDS Control Program primarily through two U.S. based contractors, AIDSTECH and AIDSCOM.

This amendment proposes four additional activities addressing basic components to achieve the project outputs and purpose:

1. The information, education and communication component will assist the GOG to inform, and encourage HIV/AIDS awareness to the people of Ghana as well as to carry out campaigns to encourage behavioral change aimed at high risk groups.

2. The laboratory support component will assist the GOG to improve its laboratory infrastructure in order to establish quality assurance procedures, upgrade and expand diagnosis and testing of facilities.

3. The health information system component will strengthen the capacity of the GOG to improve information management, data collection and analysis in order to monitor the prevalence of HIV and AIDS in Ghana.

4. The cognizance building component will increase the awareness of the implication of AIDS for economic and social development among Ghanaian leaders.

It is expected that by the end of the project: (a) knowledge, attitudes and practices among the general population on AIDS would have increased; (b) a national laboratory network system would be in place providing efficient and accurate diagnostic analysis and generating data needed for epidemiological surveillance; (c) there would be a three fold increase in condom use as measured by nation wide Knowledge, Attitudes and Practices surveys; (d) there would be a decrease in sexual partners by 15% as measured by the same surveys; (e) at least 10 NGOs would be actively involved in providing information and education to identified target groups and (f) GOG policy and decision makers would be cognizant of AIDS as an urgent multisectoral problem.

Beneficiaries: The primary beneficiaries are all sexually active adults and their children.

Implementation Arrangements: The USAID/Ghana Health, Population and Nutrition Office with the assistance of REDSO/WCA will competitively procure the services of a prime institutional contractor who will implement most of the project interventions. The Ministries of Health and Finance and Economic Planning will be the Ghana implementing agencies.

Source and Origin of Goods and Services: All procurement will be from the U.S. and Code 935 sources as allowed by the DFA legislation.

Financial Summary: USAID Contribution

	Activity	Amount in U.S. Dollars (000)
1.	Institutional Contractor (Technical Assistance, Training, Commodities	4,285
2.	Buy-Ins to Central Agreements: (AIDS Impact Model)	100
3.	Direct Grants and Cooperative Agreements (Grant to Noguchi Memorial Institute)	200
4.	A.I.D. Project Support (Participant Training)	255
5.	Financial Assessments/Evaluations/ Monitoring/Surveys	160
	TOTAL	$5,000

Host Country Contribution

The GOG contribution totals $1,290,000 of which $500,000 will be from counterpart funds generated from the program component of the FPHP and will be used to rehabilitate laboratory buildings, and the rest in kind made up of staff salaries, office space, etc.

III. Initial Environmental Examination (IEE)

The IEE contained in the PP Supplement Annex K has determined that the Ghana Family Planning and Health Project: HIV/AIDS

Control meets the criteria for categorical exclusion under A.I.D. Regulation 16. The IEE has been approved by the Africa Bureau Environmental Officer (State 254595).

IV. Justification of Congress

The FPHP: HIV/AIDS Control sub-project was not included in the FY91 Congressional Presentation (CP). Therefore a Congressional Notification (CN) was sent to the Hill to inform the Congress of a planned FY 1991 obligation of $4.1 million. The CN waiting period expired on August 13, 1991 without objection.

Gray Amendment Considerations

USAID/Ghana has considered the participation of Gray Amendment entities in the implementation of the AIDS Control amendment. Small, women and minority owned firms and associations would be invited to bid and implement key components of the entire FPHP project.

Human Rights

No human rights clearance is required for the subject amendment.

Waivers: No waivers are required in the FPHP HIV/AIDS Control PP supplement.

V. Recommendation

Pursuant to the Africa Bureau Delegation of Authority to the A.I.D. Representative, USAID/Ghana, in 90 State 346935, it is recommended that you sign the attached Project Authorization Amendment and amended Project Data Sheet and thereby approve an additional $5,000,000 Project Grant to the FPHP project for AIDS Control activities. Total Life-of-Project funding for the FPHP is $15,500,000.

Approved: [signature]

Disapproved: _____

Date: Aug 19, 1991

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Attachments:

1. Project Authorization Amendment
2. Amended Project Data Sheet
3. FPHP Project Paper/AIDS Control Supplement and Annexes.

Drafted by:REDSO/PDO:JSchulman
Clearance:CONT:WLGrizzard

PROJECT AUTHORIZATION
AMENDMENT NO. 1

Name of Country:	Republic of Ghana
Name of Project:	Family Planning and Health
Project Number:	641-0118

1. The Family Planning and Health Project for the Republic of Ghana was authorized on February 21, 1991 pursuant to Section 496 of the Foreign Assistance Act of 1961, as amended. That Project Authorization is hereby amended as set forth below.

2. (A) Section 1 of the Project Authorization is deleted in its entirety, and the following Section 1 is substituted in lieu thereof:

1. Pursuant to Section 496 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Family Planning and Health Project (the "Project") for the Republic of Ghana (the "Cooperating Country"), involving planned obligations of not to exceed Fifteen Million Five Hundred Thousand United States Dollars (US $15,500,000) in grant funds (the "Grant"), over a period of five years from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the Project. In addition to the Grant, I also authorize the contribution to the Project of contraceptive commodities with a value not to exceed Six Million Five Hundred Thousand United States Dollars (US $6,500,000). Except as A.I.D. may otherwise agree in writing, the planned life of the Project is six years from the date of initial obligation.

(B) Section 3(b) of the Project Authorization is amended by the addition of the following conditions precedent:

(4) Prior to extending laboratory services beyond the central Public Health Reference Laboratory in Accra, the grantee agrees that an analysis will be done of the constraints, costs and benefits of various options for providing laboratory services, including options from both the public and private sectors. This analysis will form the basis for a decision as to whether to proceed with the development of laboratory facilities, and to what extent they will be funded under the project. This condition precedent will not delay project start, but must be met before assistance will be provided to any laboratory outside Accra.

(5) Prior to the release of any funds for the purchase of any laboratory equipment for a specific laboratory, and prior to the release of funds from the Special Account for the construction of laboratories, the Grantee will designate sufficient numbers of individuals who will assume management responsibilities for the laboratory. The Grantee will take into account environmental considerations prior to the disbursement of local currency for the construction of facilities. This condition precedent must be met for each of the four laboratories proposed under this project.

(C) Section 3(c) of the Project Authorization is amended by the addition of the following covenants:

(6) Provide all local resources needed for the implementation of the project, including but not limited to, project staff, buildings, building rehabilitation, and maintenance costs.

(7) Continue and support all Project activities after the expiration of the Project Assistance Completion Date.

3. Except as amended herein, all terms and conditions of the Project Authorization remain in full force and effect.

Aug 10 1991

Date

Joseph B. Goodwin
A.I.D. Representative
USAID/Ghana

Clearances: 1. PRM: EBirgells
2. CONT: WGrizzard

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

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

COUNTRY/ENTITY: GHANA

3. PROJECT NUMBER: 641-0118

4. BUREAU/OFFICE: AFRICA 06

5. PROJECT TITLE (maximum 40 characters): FAMILY PLANNING AND HEALTH

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 01 DD 07 YY 95

7. ESTIMATED DATE OF OBLIGATION (Under B. below, enter 1, 2, 3, or 4)
A. Initial FY 91 B. Quarter 4 C. Final FY 93

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

A. FUNDING SOURCE	FIRST FY 1991 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	5,350	0	5,350	15,500	0	15,500
(Grant)	5,350	0	5,350	15,500	0	15,500
(Loan)	0	0	0	0	0	0
Other U.S. 1.						
Other U.S. 2.						
Host Country	0	0	0	0	13,544	13,544
Other Donor(s)						
TOTALS	5,350	0	5,350	15,500	13,544	29,044

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) DFA	4408	440		1,250	0	4,100	0	15,500	0
(2)									
(3)									
(4)									
TOTALS				0	0	4,100	0	15,500	0

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
420 430 450

11. SECONDARY PURPOSE CODE

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

A. Code	TRG	BRW	PVO2
B. Amount			

13. PROJECT PURPOSE (maximum 480 characters)

To increase the use of and demand for family planning, through expanding the public and private sector capacity for providing FP/MCH services and supply.

14. SCHEDULED EVALUATIONS
Interim MM 01 YY 93 MM YY Final MM 07 YY 95

15. SOURCE/ORIGIN OF GOODS AND SERVICES
[X] 000 [ ] 941 [ ] Local [ ] Other (Specify) 935

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP amendment)
This is an amendment to the FPHP which will assist the Government of Ghana's National AIDS Control Program increase the effectiveness of HIV/AIDS prevention and control efforts through expanded activities in information, education and communication, laboratory services, health information systems and cognizance building.

I concur in the methods of implementation and the financial arrangements under the project.
Willard Grizzard, Controller

17. APPROVED BY
Signature: Joseph R. Poole
Title:
Date Signed: MM DD YY

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

BEST AVAILABLE COPY

SUMMARY & RECOMMENDATIONS

A.I.D. assistance to the Ghana National AIDS Program is an amendment to the Ghana Family Planning and Health Program (FPHP) authorized in February 1991 by the Assistant Administrator for Africa. The six year FPHP combines program assistance of $13 million and project assistance of $10.5 million to the health sector, and in-kind contraceptive commodities worth $6.5 million.

The combined program and project goal is to lower fertility of the Ghanaian population through maternal and child health interventions. Program and project purpose is to increase the use of and demand for family planning through expanding the public and private sector capacity for providing family planning, maternal child health services and supplies. The $10.5 million project will support activities to improve the capability and increase the capacity of health care providers to deliver family planning and MCH services. In addition, contraceptives will be supplied.

The ECPR meeting for the Ghana Family Planning and Health Program advised the following (90 State 346935):

> "HIV/AIDS: It is Bureau Policy to bilateralize all HPN activities as much as possible. Instead of continuing all HIV/AIDS activities through future buy-ins, ECPR recommends that the Mission include authorization for expected HIV/AIDS activities under subject program in view of close relationship between HIV prevention activities and the planned social marketing of condoms. To this end, ECPR recommends and this cable provides Mission with delegation of authority to approve an amendment to the project authorization and project paper (subject to REDSO/WCA concurrence) of up to dollars five million for HIV/AIDS activities over the current LOP of six years. The amendment should follow A.I.D. Handbook Three requirements and the interventions should be clearly justified and delineated in the amendment."

This HIV/AIDS amendment is prepared and authorized in accordance with the above guidance. The HIV/AIDS amendment is a $5.0 million, four year sub-project of the Family Planning and Health Project component. The new goal of the FPHP with the amendment, is to lower fertility of the Ghanaian population through maternal and child health interventions, as well as to reduce the spread of HIV/AIDS. The purpose of the amended project is: (1) to increase the use of and demand for family planning through expanding the public and private sector capacity for providing family planning and maternal and child health services and supplies, and (2) to assist the GOG National AIDS Control Program (NACP) increase the effectiveness of its campaign through activities in four areas: Information, Education and

Communication (IE&C), Laboratory Support, Health Information System (HIS) and Building Government Cognizance in order to obtain GOG commitment to reduce the transmission of HIV/AIDS.

The Problem: Acquired Immunodeficiency Syndrome, better known as AIDS, has spread rapidly throughout the world since its discovery in 1981 and has become a public health problem of extraordinary scope and of unprecedented urgency. It is a deadly and incurable disease.

AIDS was first diagnosed in Ghana in 1986 when 26 cases were detected. It has increased to more than 2,200 reported cases by the end of 1990. Despite the rapid rise, these numbers seriously underestimate the prevalence of AIDS cases in Ghana, since ELISA blood tests are required for a case to be reported but often are not available. No one knows the true number of how many Ghanaians have been infected by HIV but have not yet developed full blown AIDS. Studies indicate that between 0.5% and 4% of adult Ghanaians currently carry the virus.

Significant constraints that must be addressed to ensure success for future HIV/AIDs prevention and control programs are:

(a) Staffing and infrastructural weakness of the Ministry of Health. These constraints are more apparent in the diagnostic laboratory system than in other parts of the MOH. Because of a decade of neglect, the Public Health Reference Laboratory is almost non-functional. Few qualified laboratory specialists exist in country and the laboratories lack equipment.

(b) GOG management and financial constraints such as MOH budgetary and staff shortages, incomplete inter-ministerial cooperation and collaboration and inadequate information gathering and use.

(c) The lack of awareness both in the general population as well as policy makers of the urgency to prevent and control the spread of AIDs.

The GOG recognizes the potential impact of the HIV/AIDS epidemic and is collaborating with the World Health Organization Global Programme on AIDS (WHO/GPA), by forming the National AIDS Control Program (NACP) as a subdivision of the MOH Epidemiology Division. A short-term plan for HIV/AIDS prevention and control was promulgated in 1987 and organizational framework for the NACP management structure has been established. However, budgetary resources to support the NACP program are very limited and assistance has been mainly from donors.

WHO has been the lead organization for the control and prevention of AIDS. Initial efforts in Ghana have been limited due to the scarcity of its resources. USAID has provided approximately $1.3

million to the National AIDS Control Program primarily through two U.S. based contractors, AIDSTECH and AIDSCOM. Their activities have led to substantial awareness of the problem in the Armed Forces and have supported AIDS research as a local research center, the Noguchi Memorial Institute for Medical Research (NMIMR).

Four interventions are proposed to assist the GOG reduce the spread of the AIDS virus. These are:

(a) Information, Education and Communication: Sub-project activities will focus on improving the IE&C structure at all levels. The NACP will be assisted in its effort to inform, educate and communicate HIV/AIDS awareness to the people of Ghana and their leaders and to carry out campaigns to encourage behavioral changes aimed at specific groups identified as at high risk. It is expected that Non-Governmental Organizations will participate in this effort.

Specific activities to be carried out will consist of media campaigns, ongoing research and evaluation, training, and provision of limited amount of equipment and technical assistance.

(b) Laboratory Support: This component will assist the MOH improve its laboratory management, personnel and infrastructure in order to establish quality assurance procedures, upgrade and expand diagnostic capacity of available facilities. It is expected that the laboratories will then provide more reliable data available on which to base surveillance studies, IE&C campaigns and STD surveillance and counseling needs. The PHRL facility in Accra will be renovated and upgraded. An assessment of the constraints--especially staffing, management and financial constraints--costs and benefits of various options for providing additional laboratory services will be done prior to further laboratory system development. If found to be feasible, it is anticipated that one regional and two zonal branches of the PHRL will be established, but private sector laboratories may be found to be more cost effective. Cost of renovation of existing public laboratory space will be borne by the MOH out of the counterpart funds generated under the FPHP. Project funds would be used to provide technical assistance, equipment and training. A grant would also be given to Noguchi Center for continued operational research in HIV/AIDS.

(c) Health Information System: Support will be provided to the MOH, Health Information System to strengthen information management, data collection and analysis in order to monitor the prevalence of HIV and AIDS in Ghana, while establishing an effective surveillance system. The support will be aimed at upgrading and integrating disparate parts of the present system

with the objective of establishing a National Health Information System.

(c) Cognizance Building: Support will be provided to the NACP to assist it in raising the awareness levels of policy and decision makers by providing them with reliable data on which to base their decisions. The effort is expected to result in an improved policy environment with additional government resources committed to AIDS programs, and an improved flow of donor support.

End of Project Status: By the end of the project it is expected that:

(1) The index of AIDS knowledge, attitudes and practices among the general population would have increased significantly above the baseline established in the KAP survey. Quantitative targets will be established after the baseline has been determined..

(2) A National laboratory network system would be in place providing efficient and accurate diagnostic analysis and generating data needed for epidemiological surveillance.

(3) A formal system would be in place to collect and provide accurate and ongoing data from all ten regions to monitor prevalence of HIV infection and AIDS, using both clinical and laboratory criteria.

(4) There would be an threefold increase in condom use as measured by AIDS KAP surveys.

(5) There would be a 15% decrease in numbers of sexual partners as measured by the same surveys.

(6) The Ministries of Education and Mobilization and Social Welfare will have integrated the expanded AIDS prevention and control activities into their program.

(7) At least ten NGOs would be actively involved in providing information and education to identified target groups.

(8) GOG policy and decision makers are cognizant that AIDS is a multisectoral problem.

Beneficiaries: The primary beneficiaries are sexually active adults and their children.

Implementation Arrangements: The USAID Health, Population and Nutrition Office with the assistance of REDSO/WCA will competitively procure the services of a prime institutional contractor who will implement most of the project interventions. The Ministries of Health and Finance & Economic Planning will be the Ghanaian implementing agencies.

Source and Origin of Goods and Services: All procurement will be from the U.S. and Code 935 sources as allowed by the DFA legislation.

Disbursement: The DFA $5.0 million AID contribution will be obligated over a three year period beginning FY 91.

USAID CONTRIBUTION

	Activity	Amount in U.S. Dollars (000)
1.	Institutional Contractor (Technical Assistance, Training, Commodities	4,285
2.	Buy-Ins to Central Agreements: (AIDS Impact Model)	100
3.	Direct Grants and Cooperative Agreements (Grant to Noguchi Memorial Institute)	200
4.	A.I.D. Project Support (Participant Training)	255
5.	Financial Assessments/Evaluations/ Monitoring/Surveys	160
	TOTAL	$5,000

The GOG Contribution totals $1,290,558, giving a total project cost of $6,290,558. While the GOG contribution to this component is 25% of the USAID contribution, or 20% of the total project cost, in the overall project, A.I.D. will contribute $15.5 million, plus $6.5 million in in-kind contraceptives, for a total of $22 million, and the GOG will contribute $13.5 million, or 38% of the entire project cost.

Conclusions and Recommendations:

The HIV/AIDS Control and Prevention Component of the FPHP has been designed in accordance with A.I.D. and USAID/Ghana's strategy of HIV/AIDS assistance. It was designed in close

collaboration with the GOG implementing agencies and the WHO/GPA. The activities reflect GOG concerns and priorities and follows its strategies for controlling the prevalence of AIDS.

The feasibility analyses including technical, economic, social and institutional, indicate that the sub-project is an appropriate mechanism for achieving the impact of controlling and preventing the spread of AIDS. It is therefore recommended that this supplement be authorized in FY 1991.

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ACRONYMS

A.I.D.	Agency for International Development
ADRA	Adventist Development and Relief Agency
AIDS	Acquired Immunodeficiency Syndrome
CDC	Centers for Disease Control (Atlanta)
CHS	Center for Health Statistics
CIP	Committee of Interested Parties
CPSD	Contraceptive Procurement & Supply Division
DFA	Development Fund for Africa
ECPR	Executive Committee for Program Review
EEC	European Economic Community
ELISA	Enzyme Linked Immuno Sorbant Assay
FP	Family Planning
FPHP	Family Planning and Health Program
GAF	Ghana Armed Forces
GPA	Global Programme on AIDS (WHO)
GSMP	Ghana Social Marketing Program
GTZ	Gesellschaft für Technisch Zusammerabeit
HAPA	HIV/AIDS Prevention in Africa
HED	Health Education Division
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HLS	Health Laboratory Services
HPN	Health Population and Nutrition
IE&C	Information, Education and Communication
KABP	Knowledge, Attitude, Beliefs and Practices
LOP	Life-of-Project
MCH	Maternal & Child Health
MFEP	Ministry of Finance and Economic Planning
MIS	Management Information Systems
MOH	Ministry of Health
MTP	Medium-Term Plan
NACA	National Advisory Council on AIDS
NACP	National AIDS Control Program
NBTS	National Blood Transfusion Service
NGO	Non Governmental Organization
NMIMR	Noguchi Memorial Institute for Medical Research
ODA	Overseas Development Administration (U.K.)
ORS	Oral Rehydration Salts
PHRL	Public Health Reference Laboratory
PMU	Project Management Unit
PVO	Private Voluntary Organization
REDSO/WCA	Regional Economic Development Support Office, West & Central Africa (A.I.D.)
SIDA	Swedish International Development Agency
STD	Sexually Transmitted Disease
TBA	Traditional Birth Attendant
UNDP	United Nations Development Program
USAID/Ghana	U.S. Agency for International Development (Accra)
WHO	World Health Organization

I. INTRODUCTION

The Ghana Family Planning and Health Program is a U.S. $30.0 million, six year program which combines project and program assistance. The Grant Agreements were signed, and an initial obligation of $5.59 million were obligated on April 25, 1991. An additional $2.34 million has been obligated for the purchase of contraceptive commodities. The goal of the program is to lower fertility of the Ghanaian population through maternal and child health (MCH) interventions. The purpose of the program is to increase the use of and demand for family planning goods and services through expanding the public and private sector capacity for providing family planning and MCH services and supplies.

Through program assistance, the Government of Ghana will be given a cash grant of $13 million in three tranches for the foreign exchange auction, upon the successful implementation of certain policies and regulatory reforms. These reforms are designed to effect: 1) the creation of a national population authority to develop a national population and family planning implementation plan and to orchestrate the national effort; and 2) the reform of regulations to broaden the categories of family planning and MCH services and supplies which can be provided by government and private health care providers.

The project component, totalling $10.5 million, will support activities to improve the capability and increase the capacity of health care providers to deliver family planning and MCH services. An additional $6.5 million will be provided in in-kind contraceptive commodities. Project assistance will be in the form of commodities, training, and technical assistance to the Ministry of Health and several Non-Governmental Organizations.

The main project activities will be: (1) making goods and services for family planning, oral rehydration, and malaria treatment regularly available to a minimum of 5,000 private sector delivery points and at all Ministry of Health facilities; (2) continued monitoring and supervision of 3,000 traditional birth attendants and training of an additional 3,000-4,000; (3) carrying out three nationwide public sector information, education and communication campaigns, and five social marketing campaigns which will stress teaching providers and consumers about appropriate and timely use of each of these health interventions; (4) establishing both public and private sector monitoring systems to monitor the impact of these interventions; and (5) establishing 15 new surgical contraception centers with doctor-nurse teams and 140 counseling nurses providing referrals from all district hospitals to the surgical contraception centers.

By the end of the project, it is expected that: (1) the modern contraceptive prevalence rate will have risen from 5% to 15% nationwide; (2) the use of oral rehydration salts per diarrheal

episode will have increased from 33% to 50%; and (3) the use of proper anti-malarial treatment for febrile episodes will increase from 25% to 35%.

The ECPR meeting for the Ghana Family Planning and Health Program advised the following (90 State 346935):

> "HIV/AIDS: It is Bureau policy to bilateralize all HPN activities as much as possible. Instead of continuing all HIV/AIDS activities through future buy-ins, ECPR recommends that the mission include authorization for expected HIV/AIDS activities under subject program in view of close relationship between HIV prevention activities and the planned social marketing of condoms. To this end, ECPR recommends and this cable provides mission with delegation of authority to approve an amendment to the project authorization and project paper (subject to REDSO/WCA concurrence) of up to dollars five million for HIV/AIDS activities over the current LOP of six years. The amendment should follow A.I.D. Handbook three requirements and the interventions should be clearly justified and delineated in the amendment."

This supplement is prepared in accordance with the above guidance. Specifically, it prepares the authorization of a $5.0 million AIDS prevention and control sub-project to the Family Planning and Health Project (641-0118). This sub-project will be implemented over a four year period.

A. Acquired Immunodeficiency Syndrome: A Worldwide Overview

Since its discovery in 1981, Acquired ImmunoDeficiency Syndrome, better known as AIDS, has spread rapidly throughout the world, and has become a public health problem of extraordinary scope and unprecedented urgency. It is a deadly and incurable disease. There is currently no vaccine available, and treatments currently being investigated are toxic, of unproved efficacy and very expensive. It is currently believed that all people who are infected with the Human Immunodeficiency Virus (HIV) will ultimately develop AIDS, and will die shortly thereafter. Because of the long latency or incubation period of the disease (i.e., the length of time between the initial infection with HIV and the onset of the clinical disease - AIDS), half of the people infected with HIV will develop AIDS within the next 10 to 12 years. In Africa, people who develop AIDS usually die within a few months of the diagnosis.

In addition to people who have developed clinical AIDS, the World Health Organization (WHO) estimates that six million Africans have been infected by HIV, and can expect to develop the disease in the near future. AIDS has become a leading cause of death in many African countries.

AIDS was first diagnosed in Ghana in 1986, when 26 cases were detected. Since then the number of reported cases has more than doubled each year to a total of 2,237 cases at the end of 1990. Even this number seriously underestimates the number of AIDS cases in Ghana, since confirmatory blood tests are required for a case to be reported, and these are often unavailable. In addition, no one knows the true number of Ghanaians who have been infected by HIV but have not yet developed full clinical syndrome of AIDS. A review of the studies that have been done (see Technical Analysis Annex) leads to the conclusion that between 0.5% and 4% of adult Ghanaians currently carry the virus and will eventually die of the disease, whether or not any program is effectively introduced.

One series of studies shows how rapidly HIV/AIDS is spreading in Ghana. Blood donors in Accra/Tema were sampled in 1986, 1988 and 1990. While none were found to be infected in 1986, 1.3% were so in 1988 and 2.3% were positive for the HIV in 1990. While the overall population may not be as heavily infected as this--one study of pregnant women in Accra in 1990 showed that only 0.7% were positive--AIDS is affecting ever more people. If the trend in Ghana follows the course taken by Côte d'Ivoire, prevalence could rise from the current level to over 7% in only four years.

In part because the initial cases presumably were brought into Ghana by women traveling to Abidjan, more women than men are presently affected by this disease. Currently 2.5 Ghanaian women have been diagnosed with AIDS for every man. More recently, indigenous transmission has become more common. In 1990 only 56% of people with AIDS had traveled abroad. Unlike the rest of Africa where most cases are found in urban areas, in Ghana more cases have been diagnosed in Eastern (758) and in Ashanti (725) Regions than in Greater Accra (224). Few cases have been diagnosed in children.

In Ghana, AIDS is primarily spread by heterosexual contact, with a much smaller portion transmitted through blood transfusions where the donor is a HIV carrier. This differs from the situation in the U.S. and Europe, where spread is primarily by homosexual contact and contaminated needles. Two types of the virus which causes AIDS, HIV-1 and HIV-2, are present in Ghana. These two viruses cause disease of similar clinical course, but testing is more complicated since tests that detect one may not detect the other.

To see what is likely to happen in Ghana, it is necessary to look at neighboring countries. In West Africa, in addition to moderate HIV-2 prevalence, many countries have experienced marked increases in HIV-1 infections. As mentioned above, in Abidjan, Côte d'Ivoire, HIV-1 prevalence in adults has risen from around 1% to over 7% during the past four years. During the late 1980s, reported AIDS cases from West Africa increased steadily. By

April 1991, close to 7,000 AIDS cases had been reported from Côte d'Ivoire alone. Geographically, this means that the HIV/AIDS problem is no longer limited to the "AIDS belt" in eastern, central and southern Africa. Despite earlier assessments that West Africa was relatively free of HIV infection, recent studies by the U.S. Centers for Disease Control have established that in Abidjan, AIDS is already the number one cause of death in adult males and the number two cause of death in adult females, second only to maternal deaths.

Thus far in East and Central Africa, the HIV/AIDS pandemic has progressed to the alarming situation where between one-quarter and one-third of all adults aged 15-49 living in some large urban centers had been infected with HIV by early 1991. On the basis of a large community-based survey, it is estimated that there were over 750,000 HIV-infected adults in Uganda alone by late 1988.

In looking at the overall HIV/AIDS situation in Sub-Saharan Africa, the World Health Organization estimates that currently six million Africans are infected with the HIV. This represents two-thirds of the global total of over nine million persons infected with HIV. HIV infection levels continue to increase rapidly throughout Africa. In addition to the alarming urban rates of HIV infection discussed above, rural adult infection rates, already at or exceeding 10-15 percent in several countries, are quickly rising. It is estimated that approximately 900,000 African infants have been born infected with HIV by early 1991, and the projected total by the end of the 1990's is 10 million or more.

The HIV/AIDS pandemic will have a profound impact in Sub-Saharan Africa. The increasing rate of HIV infection in Africans may more than triple the adult mortality rate and cause significant increases in child mortality and dependency ratios (i.e., increased number of orphans) in many countries, thus threatening to reverse hard-fought gains in child survival and in overall health status in Africa. During the 1990s, the impact of HIV/AIDS will be greatest in, but not limited to, the large urban areas of Sub-Saharan Africa. In such cities, AIDS deaths in young people and in those aged 15-49 may well reduce expected population growth in those cities by more than 30 percent. However, the total population in these countries is expected to continue growing during the 1990s. Therefore, HIV/AIDS is an important economic development issue which must be addressed in the context of family planning and other health programs.

B. Constraints to HIV/AIDS Spread and Control:

USAID and other donor's experiences in health and population assistance to Ghana over the past two decades, as well as GOG experience in HIV/AIDS programs since 1989, have produced an understanding of the significant constraints that must be addressed in future HIV/AIDS prevention and control programs. As HIV/AIDS prevention and control activities are considered to fall within the health and population sector, and because this sub-project will integrate HIV/AIDS activities into the family planning and health project component of the Ghana FPHP, the major constraints discussed in the section of the Project Paper/Program Assistance Approval Document entitled "Health and Population Sectoral Constraints" also are applicable to this HIV/AIDS Prevention and Control sub-project. A summary of those constraints, as they relate to HIV/AIDS follows:

The major constraints to the accomplishment of a successful HIV/AIDS program are the managerial and infrastructural weaknesses of the Ministry of Health. These are even more apparent when the important role of diagnostic laboratories is examined. Because of a decade of neglect, the Public Health Reference Laboratory (PHRL) has been rendered almost non-functional. There are exceptionally few qualified laboratory specialists in country who could be recruited to take on the task. Strengthening laboratory capacity will be an important input if accurate data on HIV/AIDS is to become available for analysis.

Addressing GOG management and financial constraints, such as Ministry of Health (MOH) budgetary constraints and MOH limited staff capabilities are critical to the successful implementation of HIV/AIDS activities. The effect of these constraints are exacerbated when it is realized that HIV/AIDS is a multi-sectoral issue and that HIV/AIDS programs will require inter-ministerial cooperation and collaboration at both the national and local levels. The ultimate effectiveness of the National AIDS Control Programme (NACP) will be greatly influenced by any major public sector institutional and infrastructural weaknesses in the MOH and in other Ministries, such as Education or Information. The Ghana NACP has received significant resources from the international donor community. However, without sufficient absorptive capacity by the MOH, the provision of significant external financial resources could be insufficient to ensure the effective implementation of HIV/AIDS interventions by the NACP, especially when developing an institutional capacity to conduct and maintain a comprehensive IE&C program as well as an integrated epidemiologic and laboratory information surveillance system.

Similarly, sustainability constraints and the challenge of promoting behavioral change through public IE&C programs are as

applicable to HIV/AIDS prevention and control programs as they are to family planning and health programs.

C. USAID AIDS activities in Ghana:

As the disease of Acquired Immunodeficiency Syndrome (AIDS) has reached pandemic proportions, A.I.D.'s strategy for addressing the problem has progressed through stages. Initial efforts were limited, and resources were channelled through WHO.

In Ghana, A.I.D has provided approximately $1,300,000 to the National AIDS Control Program, primarily through two U.S based contractors, AIDSTECH and AIDSCOM. The following activities have been undertaken:

- AIDSTECH has collaborated with the MOH to develop a comprehensive HIV/AIDS intervention program within the Ghana Armed Forces. This has included (1) pilot focus group studies on Knowledge, Attitudes, Beliefs and Practices (KABP), (2) the establishment of diagnostic laboratory capacity at the main military hospital, (3) the establishment of a HIV sero-surveillance system among the Ghana military, (4) establishment of a condom distribution network through the Military Mess system, and (5) a military educational campaign that is about to be launched. In addition to activities involving the Ghana Armed Forces, AIDSTECH has had a long standing program targeting commercial sex workers.

- AIDSTECH has successfully field tested various simple/rapid tests (which require no instrumentation) in collaboration with a Ghanaian Institution, the Noguchi Memorial Institute for Medical Research (NMIMR). As a result of the evaluation,the NACP decided to supply the district hospitals with the rapid test HIVCHECK.

- AIDSCOM has had difficulties in implementing a national AIDS IE&C campaign. Part of this was due to an A.I.D./Washington restriction, which precluded them from subcontracting with any government entities. (This prohibition did not apply to AIDSTECH.) The inability to establish an in-country presence, either with Ghanaians or expatriates has limited their activities to organizing three workshops: One on Training of Trainers for Health Workers, one for NGOs on HIV/AIDS counselling, and a national workshop on HIV/AIDS communications. After eighteen months of intermittent work, the development of a mass media campaign for HIV/AIDS prevention and control is being designed and is expected to be launched in about three months.

D. Other Donor Support for HIV/AIDS in Ghana

A total of $3.224 million was pledged by several multilateral and bilateral donors for Ghana's National AIDS Control Program (NACP) at a Ministry of Health/World Health Organization (MOH/WHO) Resource Mobilization (or Donors') Meeting for HIV/AIDS prevention and control held in Accra on September 4th and 5th, 1989.

In addition to USAID support for activities described above, the major donors pledged assistance in: management, sentinel surveillance, laboratory equipment, a nationwide KABP survey (WHO's Global Programme on AIDS); counseling and clinical management (UNDP); STD surveillance and clinical management (European Economic Community); IE&C activities by the Adventist Development and Relief Agency (ADRA) among long distance lorry drivers (supported by the Swedish International Development Agency (SIDA)); and, assistance in HIV prevention and control in the Upper West Region (Germany's Gesellshaft für Technische Zusammenarbeit (GTZ)).

WHO assistance has been delayed by difficulties in identifying and placing technical and administrative staff. Internal reorganization in Geneva, and the decentralization of the Global Programme on AIDS from Geneva to Brazzaville have also caused delays. The greatest problem this has caused is that reagents for blood testing have not been delivered, precluding diagnostic testing. A nationwide KABP survey is about to begin, and should prove useful to development of a nationwide IE&C program. ADRA will complete its project in six months, and the final report on its campaign among lorry drivers is due shortly and promises to contain significant data regarding this high risk group.

The problem of HIV/AIDS is of a magnitude which demands substantial resources, but more importantly, the effective use of those resources. Overlapping and duplication must not occur if the NACP is to be effective. Presently, inputs from the major international donors are complementary, e.g., EEC support of sexually transmitted disease (STD) surveillance and clinical management and UNDP support of counselling. All proposed USAID/Ghana assistance to the NACP is complementary to other donor support and directly contributes to the activities of the MTP.

Currently, all financial resources allocated to the National AIDS Control Program in Ghana are provided by external donors. Accordingly, the importance of donor coordination cannot be overemphasized. The major problems which donor support have encountered have been caused by the poor absorptive capacity of the MOH and organizational delays that donors have faced in getting approval of funds in their home countries.

With the exception of USAID, WHO and SIDA, which had already obligated funds for AIDS activities, none of the funds pledged by

other donors have been released in the eighteen months since the resource mobilization meeting. The main reason for this has been the internal bureaucracy involved in obligating funds within the parent organization. However, all donors are close to completing negotiations and beginning implementation.

II. RATIONALE FOR THE HIV/AIDS PREVENTION AND CONTROL

A. Rationale and Strategy

The Ghana Family Planning and Health Program (FPHP) is a watershed intervention that culminates two decades of experience in family planning and population activities in Ghana. Within the context of the family planning, reproductive health, maternal and child health (including malaria and diarrhea interventions), health information and policy dialogue components of the project, the HIV/AIDS Prevention and Control sub-project is a logical and inter-related supplement to the scope of the FPHP. Such an integrated strategy is especially appropriate in the countries of Sub-Saharan Africa where HIV/AIDS has become established, such as Ghana. In these countries, HIV/AIDS will affect all aspects of health promotion and delivery in the not-so-distant future.

In April 1991, the World Health Organization (WHO) published the projection that during the next several decades, AIDS will become the leading cause of death among young and middle-aged adults in Sub-Saharan Africa, thus having a profound impact on social, economic and development issues in the region. This already has occurred in numerous African cities, including Abidjan, where, as noted above, AIDS is the main cause of death for men and second for women. Additionally, according to WHO projections, AIDS will become one of the leading causes of infant and child mortality in Sub-Saharan Africa. Comparing the projected impact of HIV/AIDS with that of the other leading causes of death in children under five, estimates were made of current and future mortality rates in children due to measles, malaria, diarrhea and HIV/AIDS. Using a demographic model (discussed in more detail in the Technical Analysis, Annex B), WHO projected that diarrhea will remain the predominant cause of death among children; malaria will continue to be important; and child deaths due to measles will decrease as a result of increasing use of measles vaccine. However, before the mid-1990s, AIDS is expected to cause more deaths in Sub-Saharan African children than either malaria or measles.

While the prevalence of HIV infection appears to be rising in Ghana, it is still far lower than the HIV prevalence in many other African countries, including the neighboring country of Côte d'Ivoire. This strongly suggests that a "window of opportunity" for HIV prevention efforts currently exists in Ghana. Available information also suggests that this "window"

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will not remain "open" indefinitely. Thus, at this time, it is entirely appropriate to seize the opportunity to integrate HIV/AIDS prevention and control activities into the ongoing family planning and health framework of the USAID/Ghana program in order to take full advantage of overlaps and similarities in interventions, programmatic economies-of-scale, and the synergistic relationship between HIV/AIDS awareness and condom social marketing for family planning, while minimizing any additional project management burden incurred.

Many USAID Missions in West Africa, including USAID/Ghana, have had limited experience in HIV/AIDS prevention and control to date because of the relatively little attention paid to HIV/AIDS by their Host Governments (due to competing priorities and the relatively less severe epidemiologic situation perceived thus far in those countries). Unfortunately, many of those countries, including Ghana, are probably now at the same point on the HIV epidemic curve where countries, such as Uganda, Zambia and Tanzania, were in 1985-86.

Implementation difficulties, which A.I.D. and the Ministry of Health have faced over the past three years, have lead to what will become the ultimate strength of this FPHP sub-project. The hallmark of the FPHP integration strategy is a coordinated approach to infrastructure strengthening and capacity building throughout the health and population sector in Ghana. Since many of the main interventions in family planning, health and HIV/AIDS involve changing behavior, the Ministry of Health's Health Education Division will be strengthened as a major component. Additionally, since accurate data must be available to understand disease parameters and develop appropriate interventions (whether for malaria or HIV/AIDS), an adequate information collection and analysis system will be developed, along with the laboratory structure to provide the basic data for the information system.

B. Policy Approach

This HIV/AIDS prevention and control sub-project will build onto the project assistance component of the Ghana FPHP to assist the Ghana NACP in developing an institutional capacity to conduct and manage a comprehensive information, education, and communication program and to build and maintain an integrated health information system with associated epidemiologic surveillance and laboratory support.

The Ghana FPHP has a strong policy component. This is the result of six years of policy dialogue during the implementation of the Contraceptive Supplies Project. The political situation in Ghana regarding AIDS has not yet progressed to the point that an explicit policy component, in the form of cash grants in response to specific policy initiatives, is warranted. However, there are many policy constraints that will be addressed both formally and

informally during the course of the project. In addition to the implementation constraints described in the Ghana FPHP, these include the following inter-related policy issues and problems:

1. There is an urgent need to engage top level Ghanaian decision makers in dialogue concerning HIV in relationship to other health and socio-economic issues. This problem emerged in Ghana, as in other sub-Saharan nations, while the government and the MOH were struggling with the problems of high child mortality, high prevalence of common infectious diseases (malaria, diarrheal disease, acute respiratory disease, measles), high maternal mortality, a high population growth rate, and severe limitation of available resources. It is difficult for these policy-makers to recognize the real threat of AIDS when these other problems are so much in front of them. Despite the knowledge provided by ten years' tragic experience with the HIV pandemic in Africa, Ghana still risks a national response which will be too late and too weak.

2. The lack of sufficient, pertinent, high quality epidemiologic, economic, and social scientific data relevant to the HIV/AIDS epidemic has substantially slowed efforts to increase both government commitment and public opinion support for HIV/AIDS prevention programs.

3. The multisectoral aspect of HIV/AIDS prevention and control in Ghana needs special attention for the following reasons:

a. there is still inadequate understanding in Ghana that HIV/AIDS is not solely a health issue, but rather is a socio-economic problem affecting all aspects of society. HIV/AIDS does not respect any sector. Exacerbation of the manpower shortage by HIV/AIDS will slow down the economic progress, already affected by a significant shortage of trained personnel across all sectors. Of particular importance is that data from other African countries demonstrate that the more educated, better trained and wealthier are also hard hit by the HIV/AIDS epidemic;

b. the low profile of the NACP within the MOH organizational framework does not stimulate a meaningful multisectoral response. For example, currently few ministries other than Health are seriously involved at levels above those of the Technical Subcommittees;

c. the massive resources needed as well as the social pressures required to tackle the HIV/AIDS problem cannot be generated or absorbed by any single sector.

C. Relationship of Sub-Project to A.I.D. Strategy and Policies

In recognition of the seriousness of the growing HIV/AIDS problem throughout the world, A.I.D. issued the first Agency-wide policy guidelines February, 1987; these were revised and reissued in April, 1987. The policy guidance states that A.I.D. recognizes the worldwide leadership role of the WHO in combatting HIV/AIDS.

Specific activities contributing to the prevention of HIV/AIDS transmission through blood, perinatal and sexual contacts which were foreseen in the policy guidance include: applied, operations, and behavioral research; economic research; information, education and communication (IE&C) programs; training; sexually transmitted disease (STD) control and counseling; epidemiologic surveillance; and acquisition of diagnostic assays and related laboratory equipment. In addressing the Congressional mandate to provide more support to Private Voluntary Organizations (PVOs) and Non-Governmental Organizations (NGOs), the policy guidance encourages the implementation of HIV/AIDS activities by such grass-root organizations. Under current HIV/AIDS policy guidance, however, basic research and curative care for AIDS shall not be funded.

In general, the April 1987 policy encouraged an empirical approach to programming HIV/AIDS interventions to allow for the incorporation of new information and lessons derived as the Agency gains experience in implementing HIV/AIDS-related activities. As a consequence of the past four years of experience with WHO's performance of in-country implementation of HIV/AIDS prevention and control, there is an evolving Agency policy whereby the inputs from A.I.D. and the WHO/GPA are to be complementary: WHO providing coordination and planning, A.I.D. supporting in-country implementation.

As AIDS Prevention and Control is a Congressional Interest Area, the use of Development Fund for Africa (DFA) operational year budgets to support the bilateralization of HIV/AIDS prevention activities by USAID Missions in Africa is being encouraged. Current Bureau for Africa policies encourage the development of bilateral HIV/AIDS projects and/or the integration of HIV/AIDS prevention and control components into existing bilateral health/population projects. The Bureau for Africa's decentralization policy requires Missions to maintain less reliance on regional project funding (such as the HAPA Project) and to assume more responsibility for the funding and management of their own HIV/AIDS initiatives. Additionally encouraged is the implementation of Non Project Assistance (NPA) in the social sectors. This sub-project of the Ghana FPHP is consistent with Agency AIDS policy and Bureau for Africa guidance to the field.

D. Relationship of Sub-project to GOG Strategy and Priorities

The Government of Ghana recognized the potential impact of the HIV/AIDS epidemic early. This recognition resulted in the formation of the National AIDS Control Program (NACP), a subdivision of the Epidemiology Division of the Ministry of Health.. As in other sub-Saharan African countries, this was developed in collaboration with the Global Programme on AIDS of the World Health Organization (WHO/GPA). A Short-Term Plan (STP) for HIV/AIDS prevention and control was promulgated in July 1987, and the NACP Program Manager was named in January 1988. While the earliest reported cases of AIDS in Ghana represented infections presumably imported from neighboring countries, the implementation of the STP soon provided evidence that HIV infection was being acquired and spread within Ghana itself. Thus, the STP determined that HIV/AIDS was becoming endemic in Ghana, and therefore a Medium-Term Plan (MTP) was prepared in late 1988. An organizational framework for the NACP management structure was established:

1. a National Advisory Council on AIDS (NACA), a multisectoral body to advise the Secretary for Health on policy;

2. a Committee of Interested Parties (CIP), which includes the MOH, major donors, major NGO's, and the Noguchi Institute;

3. regional and district AIDS Control Committees;

4. a Program Management Unit (PMU) at the central level;

5. four technical subcommittees to advise the PMU. There are separate technical subcommittees on clinical management; education, counselling and rehabilitation; laboratory procedure and blood transfusion; and monitoring, evaluation, research, and surveillance.

The MTP describes extensively NACP objectives, strategies, and composition and function of the NACA, PMU, and technical subcommittees. In March 1991, WHO and the MOH conducted an extensive review of the first year implementation of the MTP, and subsequently reprogrammed NACP activities for the next 12 months.

All activities funded under this sub-project of the Ghana FPHP will directly support, and will be coordinated with, the Medium Term Plan of the Ghana NACP.

III. SUB-PROJECT DESCRIPTION

A. Overview

The HIV/AIDS Prevention and Control sub-project of the Ghana Family Planning and Health Project (FPHP) will provide $5 million in additional funding to the FPHP. This will increase resources in the project to a total of $15.5 million. The sub-project is an addition to and expansion of the activities undertaken under the FPHP and will incorporate many of the guidelines and mechanisms of the FPHP. The sub-project will provide support to the National AIDS Control Program (NACP) in the areas of policy dialogue, information, education and communication, laboratory support and assistance to the health information systems.

B. Objectives

1. Goal

The goal of this sub-project is to lower fertility of the Ghanaian population through maternal and child health interventions as well as reduce the spread of HIV/AIDS. Achievement of this goal is to be measured by the newly established reporting systems as well as AIDS specific KABP surveys would indicate a marked decreased in new infections with the HIV/AIDS virus, stabilization of the number of individuals with AIDS, decrease in morbidity due to HIV/AIDS infections and prevalence of safe sex.

2. Purpose

The purpose for this four-year activity is to assist the Government of Ghana (GOG) National AIDS Control Program (NACP) increase the effectiveness of its campaign through activities in the following areas: Information, Education and Communication (IE&C); Laboratory Support; and Health Information Systems (HIS); and active cognizance building activities to alert policy makers to take steps to reduce the transmission of HIV/AIDS.

3. Expected Outputs

IE&C Component:

-- Improved IE&C structure at all levels: National and all ten Region staff in place, trained and actively producing IE&C campaigns. Ten Districts with staff producing campaigns.

-- Integration of the expanded HIV/AIDS prevention and control IE&C activities into the program of at least three Ministries

including Health, Education and Mobilization and Social Welfare.

-- Increase in prevalence of safe sex practices: Threefold increase in condom use, 15% decline in number of sexual partners.

-- Ten Health/Population NGOs involved in HIV/AIDS prevention and control.

Laboratory Support:

-- Accra branch of Public Health Reference Laboratory (PHRL) established, staffed, equipped and functioning.

-- Analysis of constraints, costs and benefits of various options for provision of laboratory services throughout the country completed.

-- Up to three additional regional/zonal laboratories established, staffed, equipped and functioning, according to the findings of the laboratory analysis.

-- Laboratory management restructured and standard guidelines and procedures established throughout PHRL systems.

-- HIV testing available on year-round basis at PHRL.

Health Information Systems (HIS):

-- HIV/AIDS Surveillance and data system established and functioning at the national level and in ten regions.

-- Sentinel Surveillance studies carried out on three target groups annually.

-- Data collection, analysis and program use established in MOH.

-- Three population based surveys carried out.

Cognizance Building:

-- Adaptation of the AIDS Impact Model to the Ghanaian situation, and frequent showings to decision makers at national, regional and district levels.

-- Observation tours by government officials to other HIV/AIDS affected countries to encourage the

development of appropriate policies and programs to control HIV/AIDS.

4. End of Project Status

By the end of this HIV/AIDS sub-project, it is expected that:

i. Three nation-wide IE&C campaigns would have been carried out.

ii. Four regional campaigns aimed at high risk target groups carried out.

iii. Information/training manuals in appropriate formats and languages for NGO use in their communities and facilities.

iv. Establishment of a national clearing house within the NACP for reception, cataloging and dissemination of informational and educational material on HIV/AIDS.

v. The index of AIDS knowledge, attitudes and practices among the general population will have improved significantly above the baseline established in the 1991 KAP survey. Quantitative targets will be determined after the baseline has been established.

vi. A threefold increase in condom use as measured by the AIDS specific KABP surveys.

vii. Decrease in sexual partners by 15% as measured by the same surveys.

viii. At least three ministries, including Health, Education, and Mobilization and Social Welfare would have integrated the expanded AIDS prevention and control activities into their program.

ix. At least ten NGOs will be actively involved in providing information and education to identified target groups.

x. National laboratory network system will be in place providing efficient and accurate diagnostic analysis and generating data needed for epidemiological surveillance.

xi. Formal Health Information System in place covering all ten regions to provide accurate

and ongoing data to monitor prevalence of HIV infection and AIDS.

xii. AIDS Impact Model developed and being shown to policy makers at national, regional and district levels.

xiii. Observation tour taken by 4-5 high government officials to other countries severely affected by HIV/AIDS.

There are four principal components to the sub-project. The objectives of each component is discussed below:

At present, in the absence of an effective vaccine or drug, the most significant way to limit the spread of HIV is through Information, Education & Communication (IE&C). The IE&C component, therefore, will assist the NACP in its efforts to inform, educate and communicate HIV/AIDS awareness to the people of Ghana and their leaders and to carry out campaigns to encourage behavioral change aimed at specific groups identified as at high risk because of their socio-economic situation, life styles and/or their age groups. Educational activities will target policy makers, the general public, groups currently at high risk, and groups potentially at high risk.

The laboratory support element has the objective of assisting the Ministry of Health (MOH) improve its laboratory infrastructure in order to upgrade and expand diagnosis and testing and establish quality assurance procedures. While the objective of this sub-project is to assist in AIDS prevention and control, the ultimate aim of the laboratory support component is to assist the GOG to build a system that will effectively support the overall health and population sector in Ghana. A particular objective is to ensure that adequate managerial support is present. In respect to AIDS prevention, improved laboratory support will assist the HIS by making available more reliable data on which to base surveillance studies, the results of which help to focus IE&C campaigns. It will assist donor coordination through laboratory system links to STD surveillance and counseling needs.

The objective of providing support to the health information system (HIS) is to strengthen information management, data collection and analysis in order to monitor the prevalence of HIV and AIDS in Ghana and establish effective surveillance systems which, in turn, enable health planners and government policy makers arrive at informed decisions. Support will be aimed at upgrading and integrating the disparate parts of the present system with the ultimate objective of establishing an information system which will support the overall health and population sector.

The objectives of the Cognizance Building component are to raise the level of policy makers' awareness of the AIDS problem, and thus the level of government action, and to promote donor coordination to ensure that donor resources pledged to the campaign for prevention and control of AIDS will be effectively used.

5. Beneficiaries:

All sexually active adults and their children in Ghana are the primary beneficiaries of this project. While women are currently the primary victims of the disease, the gender discrepancy is expected to level out over the next few years. In addition, there are numerous individuals and groups who will benefit from the successful implementation of this project.

High risk groups currently identified and to be identified during sub-project implementation will also benefit through testing and education. They will live longer and more productive lives, thus contributing more to society. Although transmission of AIDS through blood transfusions is a relatively minor factor, nevertheless, those who give and receive blood will be protected to a much greater extent than presently.

A group which will also receive considerable primary benefits from the sub-project is that consisting of medical and para medical personnel. Improved laboratory facilities and testing procedures should encourage some of these professional persons to remain in Ghana, thus reducing the "brain drain" which is one of the major causes of the shortage of skilled personnel in the country. Medical personnel will also benefit from education in that they will be better able to protect themselves. Spread effects will encompass the population as a whole with better medical and laboratory services being provided.

C. Detailed Description of Activities

The sub-project described in this Project Paper Supplement will implement activities in IE&C, Laboratory Support, Health Information Systems and Cognizance Building.

1. Information, Education and Communication (IE&C)

Studies have shown that limited IE&C interventions are effective in changing behavior and increasing safe sex practices, i.e., increased condom use and decreased number of sexual partners. Outcomes of the IE&C activities in this project are expected to include a threefold increase in condom use over the baseline to be determined in the AIDS KABP survey to be conducted by summer 1991, and a decrease of 15% in the number of sexual partners. If the reduction in sexual partners can be maintained, and if condom usage can ultimately be increased to 25%, epidemiology models

suggest that the epidemic can be brought under control. Clearly, the more rapidly these threshold figures are reached, the more rapidly the epidemic will be controlled.

Currently, there are a large number of AIDS IE&C efforts that are being staged by a wide variety of groups, both public and private, from the Ghana Medical Students Association to Musana Christo Disco Church. As can be imagined, these groups, who produce materials without technical advice, often present conflicting and simply wrong information. For example, one religious groups teaches flatly that condoms do not prevent AIDS. In response, the MOH Health Education Division has recently assigned a staff member to the NACP to assist with the development of AIDS IE&C materials. A nationwide Knowledge, Attitudes, Beliefs and Practices (KABP) survey will be held in Summer, 1991 with WHO funding, and will provide baselines for measuring sub-project impact.

Activities will focus on improving the IE&C structure at all levels. With increasing GOG cognizance that AIDS is a multisectoral problem, the component will also aim at expanding the involvement of Ministries other than Health, so that by the end of the sub-project at least the Ministry of Education and the Ministry of Mobilization and Social Welfare will have integrated HIV/AIDS prevention and control into their programs. NGOs, who are active nationwide at the grass roots level, will be recruited to participate in the IE&C activities. At the end of the project, it is expected that at least ten NGOs will be actively involved in providing information and education in communities and to identified target groups.

Specific inputs will include IE&C campaigns that focus on increasing awareness of HIV/AIDS among the population as a whole and on increasing the prevalence of safe sex practices among target groups identified as being at high risk. Specific activities to be carried out will consist of media campaigns, ongoing research and evaluation, training, the provision of a limited amount of equipment, materials and technical assistance.

Campaigns will be targeted at many different audiences, from opinion leaders at the national, regional and district levels to identified high risk and potentially high risk groups. For the most part, campaign tactics will follow guidelines set forth in the FPHP Project Paper for IE&C, as summarized in the two following paragraphs.

Techniques developed with A.I.D. assistance in the Contraceptive Supplies Project will be utilized. Demographic models will be updated, new materials will be developed and media programs to be aired on radio and TV or published in newspapers and other print media will be designed.

All materials will be pretested to avoid unproductive and costly mistakes. The effects of various campaigns will be monitored through special studies and refinements will be made as needed. Themes and materials will be updated and modified during the life of the project as new target groups are identified.

Before campaigns are initiated, the prevailing knowledge, attitudes, beliefs and practices (KABP) in Ghana regarding HIV/AIDS will be examined through a national KABP survey, sponsored by WHO, to be carried out by the NACP in June of 1991. The design of the survey was adapted by a multi-disciplinary research team from a questionnaire developed by WHO. The results of the survey will help indicate the form and content of messages to be developed and the high risk target groups. This will also serve as a baseline for use in determining project impact.

The National AIDS Control Programme (NACP) is expected to manage at least three nation-wide IE&C campaigns during the life of the sub-project. In addition, four regional campaigns will be implemented each year aimed at specific high risk target groups. These include prostitutes, the military, truck drivers, adolescents, workers separated from families, traders and other groups of men such as police and prisoners. Messages appropriate to each target group selected will be developed and pretested, research will be undertaken to be sure that intended audiences are being reached and finally, short-term outcome evaluation will be performed, taking care that the outcome evaluation is linked to the particular message, e.g a campaign to create awareness should not be evaluated by reported use of condoms.

An important part of the IE&C campaigns will be the promotion of the use of condoms as a deterrent to infection with HIV. Careful planning and design of promotional campaigns will need to be carried out, in order to avoid potential conflicts of interest and misunderstandings regarding promotion of condoms for family planning purposes versus condoms for protection against HIV infection.

Training will be provided to NACP and the Health Education Division (HED) staff, to some regional and district personnel and to selected media personnel. Advanced Diploma studies in health at Ibadan University in Nigeria will be sponsored for selected education officers. Training for regional MOH personnel will be provided annually in regions where IE&C campaigns are to be undertaken and will be centered around campaign implementation. Workshops on campaign implementation also will be held for District health education staff. Workshops and seminars will be given to acquaint media personnel more fully with facts about HIV/AIDS. The number of workshops/seminars will be determined on the basis of a needs assessment to be carried out early in sub-project implementation.

Equipment will be provided to facilitate implementation of campaign activities and data collection and analysis. Two computers and one printer will be purchased for the central MOH office, and one film projector and one video cassette recorder for each region will be purchased.

Funding for educational campaign materials and for TV and radio time will be provided. It is expected that annual use of TV and radio time will be an average of three months with three messages per week.

During the course of the project, procedures will be initiated to establish a national clearing house within the NACP for the reception, cataloging and dissemination of informational and educational material on HIV/AIDS. The clearing house will ultimately constitute a reference center for information and materials on HIV/AIDS which can be continuously updated as new documents become available. Central, regional and district personnel as well as NGOs working in the health field and other agencies both governmental and non-governmental who are involved in HIV/AIDS prevention can take advantage of the facility. It will significantly facilitate donor coordination as it will provide ready access to information on what is being done by various government and non-government agencies in AIDS control activities.

The GOG has requested the assignment of a long-term resident advisor in IE&C. The request was made after a fruitless search for a qualified Ghanaian, lasting over a year, during the AIDSCOM activities. Accordingly, an additional long-term resident advisor and supporting short-term assistance will be added to the prime contract under the FPHP to provide IE&C advisory services and technical assistance.

The advisor will work under the direction of the FPHP Chief of Party. The resident advisor will be responsible for providing guidance to the MOH in the development and delivery of IE&C campaigns in family planning, maternal and child health and HIV/AIDS prevention. He/she will devote roughly 50% of the time to HIV/AIDS-specific activities and 50% to the others, although there will be overlap in some instances, particularly between family planning and HIV/AIDS activities. Short-term advisors to the HIV/AIDS component will furnish technical assistance in research and evaluation techniques as needed over the life of the project. It is estimated that short-term advisory services will be required four times annually, each time for about two weeks.

An MOH counterpart to the resident advisor has been appointed. This person is a highly qualified and motivated individual whom the resident advisor will work with over the three years of his tenure in preparation for the eventual assumption of project leadership by the counterpart.

There are presently a sufficient number of MOH staff at all levels - central, regional, district - to ensure that IE&C activities can be effectively and expeditiously implemented. The MOH will ensure that sufficient staff and management capability remain in place to ensure the continuation of activities after the end of external assistance.

The participation of NGOs in sub-project implementation will be encouraged. There are already many examples of NGO involvement in AIDS prevention activities and, in fact, these agencies are uniquely qualified to reach and provide information to target groups throughout the country. They work in all the areas of Ghana, a number of them run Mission hospitals and clinics and others conduct functional literacy and other educational programs. NGOs have a history of cooperation and collaboration with the MOH and, at the same time, they are truly private in nature and thus are appropriate intermediaries with whom to work especially in IE&C activities.

Given the prime importance of the IE&C component of this supplement, NGOs will be recruited to participate and will be trained as necessary and appropriate in IE&C techniques. Recruitment of NGOs is also planned under the parent FPHP activity and, where practicable and feasible, training will be provided in all aspects of the sub-project, i.e., family planning, maternal and child health and HIV/AIDS prevention.

Training will be aimed at increasing the capacity of NGOs to provide formal and informal training in HIV/AIDS prevention and control, particularly to identified target groups. A corollary objective is to develop a cadre of AIDS resource persons who can coordinate local IE&C activities in HIV/AIDS prevention. Information/training manuals in appropriate formats and languages will be developed for NGO use in their communities and/or hospitals/clinics. Management assistance will also be provided to those NGOs which need and/or request it.

Participating NGOS will be encouraged and assisted to form a coalition to act as a coordinating organization, to share materials, experience, and to recruit other NGOs. The group will meet regularly and will coordinate its activities and those of its members with the NACP, the resident IE&C advisor and the donor community through the CIP. It will assist the advisor to identify other potential participants within the NGO community and will compile periodic reports on the AIDS prevention and control activities of its members which it will submit to the IE&C resident advisor, the NACP and the CIP.

The IE&C component is expected to result in measurable changes in sexual behavior. Specifically, condom use is expected to rise threefold over the baseline figure, and numbers of sexual partners in target groups is expected to drop by 15%. In

addition, there will be a measurable increase in the accurate knowledge of AIDS in both the general public and specific target groups.

2. Laboratory Support

A well equipped, well managed, efficiently functioning laboratory network is necessary to generate data needed to establish epidemiologic surveillance and to focus IE&C activities. Such a laboratory system providing reliable data makes it possible to establish an effective health information network, which in turn makes it possible for IE&C activities to be effectively targeted and policy makers to make informed decisions. It facilitates donor coordination and enables donors to be better informed of the needs of a given program.

Ghana's laboratory network currently consists of a central health laboratory and the Health Laboratory Services (HLS) within the MOH. Satellite laboratories are supposed to serve the regions and districts. Within the HLS the Public Health Reference Laboratory (PHRL) provides microbiology services. The head of the HLS also serves as the head of the PHRL. The present incumbent is a medical doctor with a Master's Degree in microbiology; he is currently the only academically qualified person within the laboratory services system. Shortage of qualified staff is a critical problem. For example, only 36% of the positions approved for the various laboratory services are currently filled. Many senior positions are vacant, including those of senior biologist, chief biochemist and principal biochemist. However, the MOH has recently established a two-year advanced Laboratory Technologist's course, which is expected to graduate 15 persons per year, beginning in 1992. These will be available to carry out project work, and about half each year are expected to fill currently vacant but approved positions in the Ministry of Health Laboratories (the remainder are expected to migrate to the private sector). Junior Laboratory technologists will continue to be trained in the existing program, which provides 40 graduates each year. About half of these remain in the public sector. To supplement the skills of existing laboratory personnel, particularly in the area of management and quality control, the project will provide short-term training to selected laboratory staff over the four years of the sub-project, probably in Nigeria. A full description of MOH training of laboratory personnel is contained in the institutional annex.

In addition to staff problems, laboratories are presently ill-equipped, short of supplies--especially reagents needed in diagnosis of HIV infection and confirmatory testing of suspected HIV-positive blood samples--and the facilities themselves are urgently in need of renovation and upgrading. Inadequate staffing and poor working environments have led to low morale and labor unrest. Quality control is non-existent as is supervision.

In short, the laboratory system is antiquated and essentially non-functioning. Consequences of the sorry state of the laboratory system range from under reporting of HIV/AIDS, other STDs and other serious diseases such as malaria, to impurity of the blood supply for transfusions and to significant losses in trained personnel who are frustrated with the conditions and lack of opportunity to practice their skills.

The severity of the constraints make planning laboratory interventions as difficult as they are necessary. The laboratory support component aims to rehabilitate and rationalize the structure of the Public Health Reference Laboratory (PHRL), placing it within a viable framework where it can function effectively. The project will begin with developing the Accra PHRL laboratory, including staff, management, quality control and equipment. Physical rehabilitation itself will be carried out by the GOG, using resources made available under the non-project assistance component of the Family Planning and Health Program. Sufficient staff and commitment exists to accomplish this task.

At the same time that the Accra PHRL is being placed on a firm foundation, the project, the GOG and USAID will carry out an analysis of the constraints, costs and benefits of various options for providing laboratory services throughout the country. This will include exploration of providing services through both the public and private sectors. This analysis will provide the basis for a mutual decision as to whether to proceed to expand the number of laboratories, and to what extent resources will be needed and can be provided. It will also include an analysis of the fiscal inputs required to maintain such a laboratory system into the future.

Developing a managerial capacity in the Public Health Reference Laboratory system will be a major activity in the project. One of the first tasks the Laboratory Technical Advisor will be to establish what personnel is available and what will need to be trained to establish the management needed to run the laboratory system. The advisor will then determine what in-country training is needed for existing staff, and what short-term participant training will be needed. He/she will work with the MOH to develop a plan to identify and train appropriate personnel. If it is impossible to identify appropriate personnel to staff all laboratories, other alternatives will be explored, including the possibility of developing private sector contract laboratories to carry out the necessary work.

Adequate numbers of managerial and technical staff is so important to the success of the project that an additional Condition Precedent will be added to the project specifying that funds will not be released for construction of each laboratory, or for procurement of laboratory equipment until appropriate personnel are in place.

USAID and the Technical Advisor will explore ways of encouraging exceptional students to study biomedical sciences, including possibly providing scholarships for in-country training. The options for a University Linkage project to support Ghanaian Universities in establishing attractive training programs will also be explored. USAID will continue policy dialogue with the Government of Ghana on establishing an environment that encourages trained Ghanaians to return from other countries to carry out these activities.

Additional inputs to this component will consist of physical renovation (funded by the MOH), commodities (reagents and other chemicals for testing); vehicles; equipment and maintenance, training and technical assistance.

The PHRL will be reorganized into a framework which will make it possible for its diagnostic and confirmatory testing functions to be carried out effectively. Presently, although the PHRL technically is part of the MOH, it is also administratively part of the Korle-Bu Teaching Hospital. This leads to conflicting demands for service and training. The administrative responsibility for the PHRL needs to be clarified as part of the management restructuring.

Responsibility for final confirmatory testing of suspected HIV-positive blood samples which is currently being performed by the Noguchi Memorial Institute for Medical Research (NMIMR) (a medical research institute established and supported for the most part through assistance from the Japanese Cooperation) will be taken over by the PHRL network. The NMIMR is very willing to relinquish these service responsibilities. A number of applied research activities are needed to support the PHRL system, including extensive serological surveys of Ghanaian blood to define its immunological characteristics. Some of this research will be supported by the sub-project through a grant to the NMIMR.

Under this sub-project, diagnostic and confirmatory testing activities will be separated from university and research facilities with confirmatory testing being transferred to the PHRL. The PHRL itself will be physically rehabilitated to accommodate the increased workload and improve the working environment.

Following renovation and upgrading the PHRL facility in Accra, if the analysis described above is favorable, the project proposes to establish zonal branches of the PHRL in two regional centers, Kumasi and Tamale; and establish one regional laboratory in the western region at Sekondi-Takoradi. In doing this, it will institute a national quality assurance program.

Costs of the physical renovation of the facilities will be borne by the MOH out of the counterpart funds generated under the Program Assistance component of the FPHP program. These are estimated to be about $492,000. The MOH will be responsible for handling all contracting arrangements for the renovations, negotiating the contracts and managing the implementation. (See Annex H for engineering details.)

Most reagents and other chemical supplies will be provided by USAID, as well as equipment and vehicles needed to properly maintain the system. It is estimated that over the four year period reagents for about 240,000 screening HIV tests will be needed and another 10,000 confirmatory tests. If appropriate, a vehicle will be purchased for each of the zonal laboratories and the regional laboratory. Equipment will be provided as needed to each of the laboratories receiving assistance, and will consist of refrigerators, voltage regulators, microscopes, centrifuges and other specialized testing apparatus.

If staff is available to permit the addition of two zonal branch laboratories, the PHRL will expand the ability of the MOH to perform diagnosis and confirmatory testing. Under this decentralized PHRL system of laboratory services, basic support services (e.g. logistics, communication) as well as confirmation services, diagnostic reference services and quality control guidelines will be provided to regional and district hospitals and laboratories by the appropriate zonal facility. Regional and district hospitals will be able to send suspected HIV-positive blood samples to the nearest zonal branch for confirmatory testing rather than having to send them to the PHRL in Accra for a second test and the NMIMR for the final confirmation as is done now.

Staffing needs will take into account the national quality assurance program to be established with technical assistance under this sub-project to ensure that all PHRL branches are equipped and function according to nationally established quality control guidelines by the end of the sub-project.

Improved laboratory capability and the establishment of quality control will result in effective laboratory backup services for regional and district laboratories for HIV/AIDS testing and confirmatory procedures, backup for blood transfusions and also for other diagnostic and analytical purposes. For example, it will be possible, ultimately, for the laboratory system to carry out effective blood work in respect to diseases such as syphilis and hepatitis-B.

Training of laboratory managers and staff is essential to the success of this component of the project.

Both long-term and short-term technical advisory services to assist in the implementation of the laboratory support component of the sub-project are required. While it would be preferable to rely on Ghanaian expertise with some inputs from short-term expatriate advisors, a strong rationale exists for the services of a technically qualified resident advisor. As already noted, there is presently in Ghana only one person currently undergoing university training in biomedical science and many of those already trained as laboratory technologists have left the country. Establishing quality control procedures and laboratory management techniques is a long-term process, requiring special expertise. In view of this fact and that there is virtually none of the required expertise in country, a resident advisor is clearly indicated.

The resident advisor will work under the direction of the FPHP chief of party. He/she will remain in Ghana for the four years of the sub-project and will be situated within the PHRL system. He/she will thus be better able to provide ongoing logistical support and links with the other project components, especially the information systems.

Short-term technical assistance will be provided over the life of the project as needed in selected areas. It is estimated that approximately one month per year of short-term assistance will be required.

As with the IE&C component, a highly qualified and motivated counterpart will be designated by the MOH to work with the resident advisor over the life-of-project and will be expected to assume full responsibility for the laboratory support activities at the end of the period. An appropriate individual has already been identified.

The MOH will provide adequate management support and sufficient staffing to ensure that project activities are effectively implemented and that the laboratory system can be properly sustained after external assistance ends. Proceeding cautiously with expansion of the system will allow sufficient staff to be in place at the end of the subproject. It is expected that training provided under this component will increase the number of technically qualified laboratory staff and that upgrading of the laboratory system will induce other qualified persons to remain in country, or to return from abroad.

3. Health Information Systems (HIS)

The laboratory system provides the essential backup to the health information system, which provides the final and in some ways most important link in the operational support chain leading to effective HIV/AIDS prevention and control. Without a well managed and functioning HIS, a prevention and control effort will

be unfocussed and resources will be underutilized. HIS provides essential data for IE&C campaigns based on its nationwide surveillance system and on periodic population surveys. Through its data collection, analysis and feedback mechanism it obtains reliable information to enable policy makers to arrive at informed decisions on which to base their actions. Similarly, with reliable information available on areas of need donors can more effectively coordinate their responses to those needs.

Health information must be obtained if sub-project outcomes or impact are to be measured. For baseline data, to define target groups, to monitor implementations processes, to quantify levels of project inputs achieved, an efficient HIS is essential. Most of these needs involve establishing indicators, such as the percentage of population reporting sex with more than one partner during the past six months, percentage of the population who used a condom during the past six months, percentage of males reporting an STD in the past six months and so on.

An adequate HIS providing reliable data on these and other indicators is contingent on a functioning laboratory system, but it is also contingent on technical expertise and competent management and coordination of information gathering and disseminating units.

Ongoing surveillance of selected target groups at selected sites (sentinel surveillance) is essential to monitor the spread of the disease in Ghana, obtain reliable data for HIV/AIDS prevention and control activities, and make projections of national prevalence of infection. However, it is also necessary to undertake population based surveys at specified intervals, as projections based on sentinel surveillance may not be entirely reliable. A well managed, technically competent HIS is necessary for effective implementation of these investigations.

The overall objective of this component, then, is to have in place at the end of the project, a coordinated adequately functioning health information system capable of providing reliable data to IE&C planners, government policy makers and the donor community, i.e., data collection, analysis and program use will be established within the MOH. A surveillance system would have been established, ongoing sentinel surveillance studies would be underway, population surveys would have been accomplished.

The current system for health information collection and use is badly fragmented. There are presently several different divisions in the MOH which collect and disseminate health information. The Epidemiology Division compiles information on communicable diseases, including AIDS; the National Blood Transfusion Service (NBTS) collects information on blood donors; the MCH Division reports on family planning and maternal child

health; and the Center for Health Statistics (CHS) collects information from the regions on morbidity and mortality and collates information derived from some of the other reporting entities. All of these, with the exception of the MCH division, provide markedly incomplete information which cannot be reconciled with information from other sources.

In addition to the fact that coordination among divisions is minimal, none of them are adequately equipped, staffed or supplied, nor do any of them have sufficient office space. The Epidemiology Division has only two computers, only one of which is available for entry and analysis of surveillance data. Expertise in computer use is severely limited as well: Only the director of the division is competent in the use of data management software. The CHS has no computers and currently produces only annual "hand completed" summaries which often differ from data produced elsewhere in the Ministry.

The MOH is well aware of the problems in the current health information systems, of the need to establish good sources of data, and will establish a division of Management Information in the current reorganization. The individual who has been named director is well qualified for the position, and has a good working relationship with USAID. Assistance from this sub-project will assist the MOH in completing this aspect of the reorganization.

Equipment, vehicles, training and short-term technical assistance will be provided to achieve this objective. In country expertise is considered to be such that long-term assistance will not be necessary. Much of the short-term technical assistance services will be provided by consultants obtained in Ghana, with some amount coming from abroad.

Equipment consisting of computer hardware and software and training in their use will be provided to several levels in the information system: Twelve minicomputer systems are expected to be needed in the central offices, and an additional ten for the Regional Health Offices. The exact allocation and types of computers will depend on the organizational structure that develops over the next year. Software appropriate for data management will also be provided as well as uninterruptible power supplies and supplies such as diskettes, printer ribbons and paper. Up to two vehicles will also be provided as needed to facilitate logistics.

Training in the use of the equipment will be given for the most part by locally hired consultants, although some short-term assistance from abroad may be required. Supervision of data gathering and analysis activities is essential to ensure that accurate data are in the system, and with the reorganization the MOH the structure that will provide supervision at all levels.

There will be short-term technical assistance under this component as required, currently estimated to be approximately six short trips per year. This assistance will be coordinated with other donors.

4. Cognizance Building

The GOG was one of the earliest governments in Africa to verbally recognize the threat of AIDS. In response, the National AIDS Control Program was established. However, the NACP has been relatively ineffective, primarily because government resources have not been available to implement programs. Additionally, donors have not been effectively coordinated, and, as described above, have not been as readily available as was first anticipated.

The sub-project will provide several inputs to improve the situation. The budget line item allocated specifically to this facet of the activity is small as the planned actions, although crucial to achievement of the project purpose, require little direct funding. All other project elements, however, are intended to affect policy and to facilitate coordination of donors through linkages to their programs.

The two main inputs will be (1) the AIDS Impact Model (AIM) for presentation to government policy and decision makers and (2) observation tours by top government leaders to other AIDS-affected countries in Africa to see how these countries implement their control programs.

The AIDS Impact Model (AIM) has been constructed by the Futures Group following the highly successful RAPID population model. This currently projects levels of prevalence of AIDS and its socio-economic effects over the next five to twenty-five years in a "generic" African country. Prevalence in the absence of any preventive measures and prevalence if selected interventions are implemented are projected. The model will be modified explicitly for Ghana and shown to policy makers. The RAPID model is considered to be largely responsible for a major shift in Ghanaian population policy away from a pronatalist stance. It is hoped that the AIM will have a similar effect.

Observation tours to African countries severely affected by AIDS, such as Uganda and Côte d'Ivoire, will be arranged for Ministry of Health and other government leaders so that they may view at first hand the effects of the disease. They will also have the opportunity to talk to leaders in these countries regarding their experience with efforts to prevent and control the spread.

Similarly, the laboratory support component, through upgraded, quality assured testing, will not only ensure improved analytical and diagnostic techniques to help provide policy makers with

better information on AIDS and other diseases, but will also provide linkages to Sexually Transmitted Disease (STD) surveillance and to counseling, activities being assisted by other donors. The HIS component, backed up by the rehabilitated laboratory system, will bring together all MOH information systems under an improved management system, enabling the MOH to make more reliable data available on which policy makers can base their decisions.

These inputs are expected to result in an improved policy environment, with additional government resources committed to AIDS programs, and an improved flow of donor support.

IV. PROJECT MANAGEMENT AND IMPLEMENTATION ARRANGEMENTS

A. Government of Ghana Implementing Agencies

The Government of Ghana (GOG) implementing agencies for the project components of both the family planning/health activities, as well as the HIV/AIDS prevention and control activities, are the Ministry of Finance and Economic Planning (MFEP), Ministry of Health (MOH), the National Population Authority and the National AIDS Control Program. GOG responsibilities for overall monitoring and management will be conducted by a project technical committee, comprised of a senior member of the MFEP, and representatives of the cooperating technical divisions of the MOH. At a minimum the committee shall include a senior representative each from the Maternal and Child Health (MCH) Department, the Health Education Department (HED), and the National AIDS Control Program and the National Advisory Council on AIDS. As appropriate, members representing the divisions responsible for health statistics and laboratory services will also be represented.

The Health Education Division will be responsible for planning and implementing information, education and communication (IE&C) campaigns and related activities to promote family planning, HIV/AIDS prevention and control, and the use of contraceptives for either purpose. All HIV/AIDS IE&C activities will be coordinated with the National AIDS Control Program (NACP)

The Health Laboratory Services of the Pharmacy and Supply Division of the MOH will be responsible for planning and implementing rehabilitation and reorganization of the Public Health Reference Laboratory (PHRL) framework and formulating and establishing quality assurance guidelines for the system.

The Ministry of Health will be responsible for arranging for the physical renovation of the Public Health Reference Laboratory (PHRL) in Accra through a contract with ERGS. Counterpart funds generated through the Program Assistance portion of this project

will be used for this activity. Should the project determine that other laboratories can be supported, the same mechanism will be used for their physical rehabilitation as well.

Until restructuring is completed, the MOH Epidemiology Division will be responsible for developing and installing the Health Information System. After restructuring, the appropriate successor division will assume this responsibility.

B. USAID Responsibilities

The USAID Health, Population and Nutrition (HPN) Office will have responsibility for the implementation of the project components of both the family planning and health activities conducted by the FPHP, as well as the activities implemented under the HIV/AIDS prevention and control sub-project of the FPHP. The HPN Office will be assisted by the Office of Program Operations, the Controller's Office, the Executive Office and A.I.D.'s Regional Economic Development Support for West and Central Africa's (REDSO/WCA's) Legal, Procurement and Regional Contracting Offices.

Under the family planning component, USAID will be responsible for providing the following inputs: the procurement of contraceptives for both the Ministry of Health (MOH) and the private sector social marketing component; procurement of services for evaluations and financial reviews; and procurement of services from centrally-funded projects including the Association of Voluntary Surgical Contraception (AVSC). REDSO/WCA's Regional Contracting Office will be responsible for the contracting for the procurement of the competitively selected contractor and the services of American College of Nurse Midwives (ACNM). All activities proposed with the HIV/AIDS sub-project will be implemented by the FPHP contractor/s.

Under the HIV/AIDS sub-project of the FPHP, USAID's Health, Population and Nutrition Office will be responsible for monitoring the performance of the competitively selected contractor for IE&C (for both family planning and HIV/AIDS activities) and the sub-contractor for the Epidemiologic and Laboratory Information and Surveillance System (Health Information System with associated laboratory support).

i) Competitively Selected Contractor

The institutional contractor will provide four long term technical advisors: These will include the Chief of Party and a social marketing and private sector specialist as described in the original FPHP paper. As a result of the increased activities generated by the HIV/AIDS project, the institutional contractor will also provide a public sector IE&C advisor and the laboratory. The duties of each of these are:

1. The duties of the chief of party will remain as stated in the original project paper, with responsibility for overall implementation of the project. The institutional contractor through the chief of party will be responsible for establishing a Project Management Unit through a subcontractual relationship with a Ghanaian firm, utilizing Ghanaian staff headed by a senior Ghanaian administrator to assist in managing all project inputs. The unit will operate under the overall direction of the resident expatriate chief of party who will additionally assist in developing management capability within the Ghanaian firm. The contractor also will develop a plan for turning over full management responsibilities to the Ghanaian firm after three years, with only short term technical support in the final two years of the project.

2. The social marketing and private sector advisor will implement all aspects of the social marketing component of the project, except contraceptive procurement, and will assist Non Governmental Organizations to become effective providers of family planning and health information, goods and services and AIDS prevention and control information.

An additional project management and monitoring responsibility which the contractor s social marketing and private sector support unit will handle as a result of this HIV/AIDS sub-project will be an increased level of support to not only those Non Governmental Organizations (NGOs) involved in family planning and health, but also those involved in HIV/AIDS prevention and control as well. The contractor will establish a unit within the social marketing organization to liaise with and support local NGOs to become effective providers of family planning/maternal and child health (FP/MCH) and HIV/AIDS commodities, services and information. This can include (but is not limited to) commodity logistics, technical support, and training of NGO staff and members.

3. The public sector IE&C specialist will assist the MOH's Health Education Division and the National AIDS Control Program to design and implement IE&C activities for both family planning and HIV/AIDS. The services of this individual will be available to support educational activities at the regional and district level as well as those of the central Ministry of Health.

4. The laboratory advisor will assist the MOH to rehabilitate the Public Health Reference Laboratory and to establish an effectively functioning Health Information System. The contractor will ensure that this advisor has sufficient back-up resources available with technical expertise in epidemiology, health information systems and laboratory support functions to be able to provide a full range of assistance to the National AIDS Control Program and the National Reference Laboratory in implementing all aspects of the Health Information System and

Laboratory support portion (Epidemiologic and Laboratory Information and Surveillance System) of the HIV/AIDS sub-project except for the physical renovation activity.

ii) Grant to Noguchi Memorial Institute for Medical Research (NMIMR)

USAID/Ghana will make a direct grant totalling $200,000 in assistance over the four year life-of-project to NMIMR. The funds would be used for HIV/AIDS applied research activities such as extensive serological surveys in support of the PHRL system.

iii) Buy ins

Through sub-project funds, USAID/Ghana will buy-into and obtain the assistance of the Futures Group to provide effective tools to begin policy dialogue with senior leaders and decision-makers. The AIDS Impact Model (A.I.M.)developed by the Futures Group and funded by A.I.D., is modeled after the highly successful RAPID population presentation model. The A.I.M. model will help stimulate critical multisectoral approach and encourage support of high political commitment from Ghanaian leaders.

iv) Observation Tours

With sub-project resources, USAID/Ghana will also arrange focused observation tours by senior health officials to other African countries with HIV/AIDS experience for dialogue on lessons-learned.

vi) Donor Coordination

USAID/Ghana will actively pursue donor coordination through the Health Donors monthly meetings and through the Committee of Interested Parties (CIP) meetings. The CIP consists of the major donors to the NACP, the MOH and NGOs. Heretofore, USAID has, in accord with AID/W policy deferred to the World Health Organization (WHO) and its Global Programme on AIDS (GPA) as the lead organization in the worldwide AIDS campaign. However, in view of the substantial resources USAID is planning to provide to the program and the importance of donor coordination to the overall effective use of resources, USAID will take a more active role in promoting donor coordination and interchange. As programs of the various donors are better coordinated and resources are more effectively used, other donors may be encouraged to increase their involvement in the campaign. At the same time, activities under the other project components will be contributing to policy makers' information and awareness and donor coordination. For example, the IE&C component will be producing media campaigns for television, radio and newspapers directed at building levels of awareness of policy makers as well as the general public. The establishment of a clearing house for

the reception and dissemination of information on HIV/AIDS should facilitate donor coordination.

C. Implementation Plan

Detailed implementation schedules have been developed for this sub-project activities. These plans outline the major implementation events over the life of the AIDS activities component to the Family Planning and Health Project. Detailed schedules for the activities aided by this sub-project are attached as Annex G.

Implementation Plan for Project Activities

The prime contractor, who will have overall responsibility for implementing project activities in the FPHP, will have as well responsibility for managing the AIDS prevention and control activities ie,: Information, Education and Communication, laboratory support and health information systems. This includes providing technical assistance and training to the MOH, namely the National AIDS Control Program, Health Education Department, Epidemiology Division, Health Laboratory Services and participating NGOs in the private sector.

The contractor will report regularly to the USAID Health, Population and Nutrition Office. Regular reporting includes quarterly progress reports indicating implementation status and achievement of benchmarks, quarterly financial reports, annual workplans, special studies, and final report. The contractor will develop and submit the first annual workplan for joint review and approval by USAID and the project technical committee three months after the initiation of in-country activities. The plan should include, inter alia, plans for scheduled major activities, attainment of benchmarks, training and technical assistance. First year contractor activities will also include assisting the National AIDS Control Program in developing information, education and communication activities, assisting the Ministry of Health in initiating laboratory rehabilitation activities, developing a project management information system and procurement of project commodities and equipment.

The Health, Population and Nutrition Office of USAID will assume responsibility for pre-implementation activities and will arrange any special assistance required by the Government of Ghana to meet the preliminary requirements for project initiation. USAID/Ghana will also execute PIO/Ts for buy-ins into the Futures Group A.I.M. model for presentation to political leaders and decision makers in Ghana. USAID will also arrange the focused observation tours for decision makers. Additionally, USAID will arrange all financial management reviews and all external evaluations.

The Project Implementation Plan (Annex G) presents the estimated timing for initiating and completing major project activities, including obligation schedules, project reporting and project evaluation. Specific policy benchmarks also are included where the contractor has responsibility for providing technical or other assistance.

D. Procurement Plan

1. Overview

The project is financed 100% from the Development Fund for Africa (DFA) Appropriations Account. All procurement will be conducted following the procurement guidelines for activities financed under the Development Fund for Africa. Accordingly, the project will utilize to the extent practicable goods and services of U.S. origin and from U.S. sources. Most long-term technical assistance, except local Ghanaian consultants, will be of U.S. origin. All vehicles, due to the local availability of parts and maintenance shops, will be procured from Code 935 sources as allowed by the DFA legislation. Participant training will be conducted in the U.S., at local or regional training institutions, or in other developing countries. Services and commodities procured by NGOs under their respective cooperative agreements will be of U.S. source and origin, with the possible exception of special training material which may need to be purchased from other free world country sources (Code 935). Computer equipment purchases may be from other free world country sources and will be of U.S. origin. USAID/Ghana with the assistance of A.I.D./Washington's Office of Transportation (SER/OP/TRANS) will make every effort to ensure that commodities procured directly by A.I.D. or through A.I.D. contractors will be shipped on U.S. flag carriers in compliance with the U.S. Cargo Preference Act. The USAID project manager will maintain records of all project procurement by A.I.D. Geographic Code and will report this information annually to A.I.D./Washington's Africa Bureau Office of Project Development. With the development of the procurement plan in accordance with Africa Bureau guidelines, USAID/Ghana is maximizing to the extent possible U.S. procurement.

2. Responsibilities

USAID will procure the services of (1) the institutional contractor--which will be the same contractor implementing the majority of the FPHP, (2) Technical services and personnel from A.I.D. centrally-funded projects, and (3) local technical personnel for financial assessments and evaluations. A.I.D./Washington through its Commodities and Program Support Division (CPSD) will purchase all forms of contraceptives. Additionally, prior to contractor arrival in country, the USAID

Executive Office will procure household furnishings and office equipment and vehicles for the institutional contractor necessary to ensure a smooth start up. The institutional contractor will procure all other project commodities with the exceptions noted in the project paper. These responsibilities include procuring of all project equipment and supplies, vehicles, IE&C supplies, short-term local and expatriate technical assistance and services and participant training. The Government of Ghana (GOG) through the Ministry of Finance and Economic Planning (MFEP) will procure the services of a local firm to clear, store, package and distribute A.I.D.-donated contraceptives. The GOG will procure local engineering services to carry out the renovation of the Public Health Reference Laboratory.

3. Procurement Plan Table

The procurement plan below shows the anticipated sources and origins of the AIDS Amendment portion of the project's technical services and commodities. The list of services and commodities is ordered according to project implementation responsibility areas.

Table 4(a)

PROJECT PROCUREMENT PLAN

USAID Procurement	Quantity	Budget (US$ 000)	Source
Institutional Contract	1	4,285	U.S.A.
Evaluations	2	160	U.S.A.
Participant Training		255	Code 941/ Ghana
Central Buy-ins	1	100	U.S.A.
Grant to Noguchi	1	200	Ghana
Institutional Contractor			
Long Term TA	72 p-m	1,284	U.S.A.
Short Term TA	150 p-d	437	U.S.A.
Equipment & Reagents		1,257	Code 935
Local Equipment and Services		824	Ghana

4. Procurement of Technical Services

Competitively Selected Institutional Contractor

A.I.D. will procure the contractor through direct contract. The contracting officer at A.I.D.'s Regional Economic Development Support Office of West And Central Africa (REDSO/WCA) will

solicit proposals by advertising in the U.S. Commerce Business Daily. The source for this procurement will be U.S. (Code 000). The REDSO/WCA contracting officer will chair a joint USAID-Government of Ghana (GOG) contractor selection committee and will execute a contract with the selected firm. The joint USAID-GOG contractor selection committee will evaluate the technical merit of all proposals and recommend a short list of firms to the regional contracting officer for contractor negotiation and contract execution.

The prime institutional contractor will provide four long-term advisors, chief of party, social marketing advisor, IE&C advisor and HIS/Laboratory Support advisor, and will sub-contract a Ghanaian firm for management support and for the operating the Ghana Social Marketing Program.

Two important criteria for the selection of the institutional contractor are its ability to subcontract with local Ghanaian firms and its plan for achieving complete Ghanaian implementation of the project with US contractor backstopping. If feasible, USAID will conduct a pre-qualification session to identify a short list of interested and qualified Ghanaian institutions and firms.

5. Buy-ins

USAID/Ghana will execute PIO/Ts to A.I.D./Washington central projects and Africa Bureau regional projects to obtain the additional technical expertise and tools needed for project implementation.

6. Participant Training Plan

The project will finance a small amount of participant training. Most training will be in the form of workshops and seminars, which will be conducted in the U.S., the cooperating country or other third world countries. A small number of Health Education Officers are expected to be trained as well at the University of Ibadan. However, the exact locations of workshops, seminars, and other training will be identified by the institutional contractor who will develop a training plan as part of the annual work plan which will be reviewed and approved by USAID and the Government of Ghana. Once candidates and training sites have been identified, the USAID Health, Population and Nutrition Office--with assistance from the Human Resources Development Office--will manage financing and processing participant training activities. The project will also finance focused observation tours by GOG leaders to other African countries.

7. Participation of Gray Amendment Firms

The Mission will consider Gray Amendment firms during the pre-qualification and short listing process. The Mission has

obtained a preliminary list of firms which appear to have the requisite qualifications.

8. Procurement of Reagents

As this HIV/AIDS prevention and control sub-project of the FPHP is being implemented under the direct coordination of the National AIDS Control Program (NACP), arrangements have been made for the NACP to procure those reagents which support project activities and which have been requested by the MOH (i.e., the technologically-appropriate, simple/rapid HIVCHEK test kits), but for which no U.S. Food and Drug Administration (FDA) licensure exists. These state-of-the-art HIV test kits will be purchased with World Health Organization (WHO) funds which are supporting the Medium-Term Plan of the Ghana NACP. The WHO Global Program on AIDS has been purchasing the HIVCHEK test kits for world-wide HIV/AIDS prevention and control activities because the HIVCHEK is licensed in several European countries which are WHO member states.

V. MONITORING AND EVALUATION

A. Monitoring Plan

Monitoring activities for the HIV/AIDS component, as well as for the family planning/health component, will track and assess progress of project activities and will provide the baseline data required to monitor and evaluate the achievement of benchmarks and eventually people level impact.

1. Implementation monitoring

For both the HIV/AIDS and family planning/health components, USAID will monitor the Family Planning and Health Program to track progress for the following activities:

- -- fulfillment of the conditions precedent to project start-up;
- -- contracting for long-term technical assistance;
- -- contraceptive procurement by USAID;
- -- provision of A.I.D. inputs;
- -- provision of Government of Ghana financial and other inputs;
- -- performance of the contractor;
- -- performance of the various nongovernmental organizations;
- -- performance of the Ministry of Health (MOH) recipients of project inputs;
- -- performance of the National AIDS Control Program;
- -- MOH contracting for laboratory rehabilitation;
- -- performance of MOH in management of laboratory rehabilitation contract(s).

2. People Level Impact Monitoring

The people level impact monitoring will include the tracking of benchmarks indicating the status of (1) policy implementation in creating a policy environment which promotes the execution of a national family planning program, (2) project performance in increasing the number of family planning service providers and

family planning supplies, (3) availability of family planning information, (4) project performance in creating HIV/AIDS awareness among the general population and improving HIV/AIDS knowledge, attitudes, beliefs and practices among identified target groups, and (5) project performance in improving health information systems in Ghana. Both the policy-based program assistance component and project assistance component contribute to achievement in these five areas.

The contractor and the Ministry of Health are expected to collect much of these data on a quarterly basis, and all benchmarks will be reviewed internally by USAID (and reported to A.I.D. in the Annual Project Review) on an annual basis.

In addition to those benchmarks previously established for the family planning/health components, the project benchmarks specific to the HIV/AIDS components of the FPHP are:

a) improvement in the level of HIV/AIDS awareness among the general population as measured by:

- -- increased interministerial participation in AIDS prevention and control activities;
- -- national knowledge, attitudes, beliefs and practices (KABP) survey;
- -- market surveys of condom sales;
- -- number of schools with HIV/AIDS education in the curriculum;
- -- number of community leaders supporting IE&C campaigns on HIV/AIDS prevention in their communities.

b) improvement in HIV/AIDS knowledge, attitudes, beliefs and practices among target groups as measured by:

- -- number of campaigns managed by National AIDS Control Program;
- -- market surveys of condom sales;
- -- use of condoms;
- -- decrease in number of reported sexual partners;
- -- KABP surveys among target groups;

c) improvement in health information systems as measured by:

- -- number of laboratories fully rehabilitated and functioning effectively within the PHRL framework;
- -- number of quality control measures established within PHRL framework;
- -- frequency of HIV tests being performed by PHRL;
- -- number of sites where sentinel surveillance is being carried out;
- -- number of population based surveys carried out;
- -- data being collected and feedback mechanisms functioning.

The collective monitoring of these benchmarks will indicate whether the project is achieving the HIV/AIDS-related objective of improving the effectiveness of HIV/AIDS prevention and control efforts, as well as the family planning objective of increasing the demand for and use of family planning services. Increase in condom use and decrease in number of sexual partners are the prime indicators for the achievement of the HIV/AIDS sub-project objective.

3. Monitoring Responsibilities for HIV/AIDS

Monitoring, which will be a coordinated activity for both the HIV/AIDS and family planning/health functions of the FPHP, is the responsibility of USAID and the GOG, including all the implementing agencies, the Ministry of Finance and Economic Planning (MFEP), the Ministry of Health (MOH), the institutional contractor, and the NGOs, as well as other organizations involved in family planning activities.

USAID through its Health, Population and Nutrition Office and the GOG, through MOH and MFEP, will have responsibility for overall monitoring to ensure the entire project is implemented according to the agreements between USAID and GOG. The USAID HPN office will be responsible for tracking project and program assistance benchmarks through reports received from the contractor, Ministry of Finance and Economic Planning (MFEP) and the Ministry of Health (MOH) and special analysis and evaluation.

B. Evaluation Plan

The evaluation component of the Family Planning and Health Program will be managed directly by USAID. Both the program assistance and project assistance aspects will be evaluated by

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the same team (external or in-house). All evaluation activities will be carried out with the full collaboration of the Government of Ghana, NGOs and private sector institutions which participate in the program. Annual in-house evaluations are proposed to assess the progress beginning one year after the signing of the project and program agreements. Two external evaluations are proposed during the life-of-project for both the family planning/ MCH project component and the AIDS sub-project.

Monitoring activities will provide the baseline data for both the mid-term and final evaluations.

Evaluation Schedule for HIV/AIDS

12 months In-house joint evaluation (Start up review to identify any significant problems)

24 months Mid-term external evaluation

36 months In house joint review and evaluation

Year 4 Final evaluation

a. Mid-Term Evaluation

The mid-term evaluation is planned about 24 months after the signing of the Grant Agreement Amendment.

It is expected that the mid-term evaluation will review:

-- management of inputs;

-- status of outputs;

-- progress in attaining purpose-level objectives;

-- define any management changes required for timely fulfillment of the project objectives;

-- status of project benchmarks;

-- adequacy of benchmarks and indicators for assessing overall impact at final evaluation and making recommendations for modifications in baseline monitoring, if required;

-- technical assistance requirements and progress by the contractor in transferring technical and management skills to the IE&C and laboratory support counterparts to enable them to assume increasingly greater responsibility for project implementation";

-- institutional relationships.

b. Final Evaluation

The final evaluation of the AIDS sub-project will be performed no later than six months before project completion.
It will include:

-- review of the number of benchmarks achieved;

-- review of progress made in achieving purpose-level objectives and progress in realizing input and output targets;

-- assessment of effects on beneficiaries of increased information on HIV/AIDS;

-- assessment of the progress of multisectoral involvement in AIDS prevention and control program;

-- assessment of the progress in establishing an effectively functioning health information system capable of collecting, analyzing and utilizing data to advance program objectives;

-- measurement of selected indicators currently being developed which are discussed in detail in the FPHP/AA Technical Analysis Annex.

c. End of Project Report

Following contract completion, the prime contractor will prepare an end-of-project report which incorporates findings of the final evaluation, and provides project data and accomplishments through the contract completion date.

VI. COST ESTIMATES AND FINANCIAL PLAN

A. Introduction

While the Family Planning and Health Program will be implemented over a six year period with expenditures expected over five years, the activities described in this sub-project only cover a four year period. Detailed budgets are included in Annex J and financial sustainability is included in Annex D.

B. Estimate of Expenditures

Under this sub-project of the FPHP, A.I.D. will finance long-and short-term technical assistance, training in the US, Third Country and in Ghana, equipment and commodities. The A.I.D. portion of the budget also includes funding for evaluation and a grant to Noguchi Memorial Institute. The GOG will contribute primarily salaries of counterpart staff, funds to rehabilitate the laboratories and other in-kind costs such as maintenance of vehicles and buildings, lubricants, oil and petrol and other costs.

A summary of estimated total project cost for both the USAID and GOG is illustrated in Table 6(a) broken down by expenditure category. All estimates include adequate allowances for inflation and contingencies.

A detailed breakdown of US and GOG contributions is included in Annex J.

C. Summary Budget:

TABLE 6(a)

TOTAL ESTIMATED COST OVER LIFE OF PROJECT (U.S. $)

Expenditure Category	U.S. Contribution	GOG Contribution	Total:
Technical Assistance			
Long Term	$1,284,213		$1,284,213
Short Term	$437,444		$437,444
Salaries and Counterparts		$446,532	$446,532
Training	$255,000		$255,000
Buildings & Renovation		$692,567	$692,567
POL		$40,075	$40,075
Maintenance		$111,384	$111,384
Commodities	$1,256,500		$1,256,500
Local Procurement	$824,250		$824,250
Support to Noguchi	$200,000		$200,000
Evaluation	$160,000		$160,000
Indirect Costs	$582,593		$582,593
Totals:	$5,000,000	$1,290,558	$6,290,558

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TABLE 6(b)
TOTAL ESTIMATED COST OVER LIFE OF PROJECT
U.S. CONTRIBUTION

I.	Information, Education and Communication Component	
1.	Home Office Support	$26,500
2.	Long Term Technical Assistance	$494,441
3.	Short Term Technical Assistance	$183,104
4.	Other Direct Costs	$7,961
5.	Commodities an Equipment	$117,500
6.	Indirect Costs:	$307,233
7.	Participant Training:	$105,000
8.	Total Local Costs:	$700,650
	Total:	$1,942,389
II.	Health Information and Laboratory Support Services	
1.	Home Office Support	$25,400
2.	Long Term Technical Assistance:	$721,961
3.	Short Term Technical Assistance	$254,340
4.	Other Direct Costs	$7,950
5.	Indirect Costs:	$275,360
6.	Commodities and Equipment, Health Information Systems	$185,000
7.	Commodities and Equipment, Laboratory Support	$954,000
8.	Participant Training	$150,000
9.	Support to Noguchi Memorial Institute	$200,000
10.	Local Currency:	$123,600
	Total:	$2,,897,611
III.	Evaluations:	$160,000
	Grand Total:	$5,000,000

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TABLE 6(c)

PROJECTIONS OF EXPENDITURES BY FISCAL YEAR
(U.S. $000)

Project Assistance	A.I.D.	G.O.G.	Total
FISCAL YEAR			
1992	1,493	629	2,120
1993	1,196	242	1,432
1994	1,236	248	1,482
1995	1,075	172	1,257
Total:	5,000	1,291	6,291

TABLE 6(d)

METHODS OF IMPLEMENTATION AND FINANCING

Method of Implementation	Method of Financing	(US $ 000) Approx. Amount
Institutional Contract (Technical Assistance, Training, Commodities	Direct Payment	4,285
Buy-Ins: AIDS Impact Model	Direct Payment	100
Grant to Noguchi Memorial Institute	Direct Payment	200
A.I.D. Project Support	Direct Payment	255
Direct Contract (Evaluations)	Direct Payment	160
TOTAL		$5,000

TABLE 6(e)
OBLIGATION SCHEDULE
(U.S. $ Millions)

ASSISTANCE CATEGORY	FY 91	FY92	FY93	Total
Project Assistance	3.6	0.4	1.0	5.0

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D. Financial Management

All project assistance funds will be committed through A.I.D.-direct contracts and buy-ins with U.S. firms which are required by A.I.D./Washington to be audited annually, therefore federal financial audits of this sub-project is not anticipated. The institutional contractors, however, will be responsible for contracting locally with independent auditors for non-federal reviews of the project activities in Ghana. Funds for such reviews are included in the contractor's budget. Reviews are expected at least every 18 months.

E. Obligation Schedule

Table 6(e) shows projected obligations by fiscal year. USAID/Ghana plans to obligate $3.6 million in fiscal year 1991, $0.4 million by end of fiscal year 1992 and the remaining $1.0 million by end of fiscal year 1993 for a total of $5.0 million.

USAID/Ghana will sign a Project Grant Agreement Amendment with the Government of Ghana (GOG) for this sub-project to the Family Planning and Health Program (FPHP). The FPHP ECPR, quoted at the beginning of this paper, delegates authority from the Assistant Administrator for the Africa Bureau to the A.I.D. Representative in Ghana. The A.I.D. Representative will sign the project paper supplement authorizing the addition of these activities and approving the initial obligation. Subsequent authorizations and obligations will be executed by the A.I.D. Representative in Ghana following review and concurrence by the Regional Legal Advisor. USAID will issue project implementation letters periodically to elaborate on terms and conditions of the agreement and implementation procedures.

VII. CONDITIONS AND COVENANTS

A. Project Conditions Precedent

Certain Conditions Precedent are contained in the Family Planning and Health Project Agreement. All of these remain in effect. However, because of the importance of adequate managerial and technical staff to the success of the laboratory assistance component, the Project Assistance Grant Agreement Amendment will include the following condition precedent:

(d) Prior to extending laboratory services beyond the central Public Health Reference Laboratory in Accra, the Grantee agrees that an analysis will be done of the constraints, costs and benefits of various options for providing laboratory services, including options from both the public and private sectors. This analysis will form the basis for a decision as to whether to proceed with the development of laboratory facilities, and to what extent they will be funded under the project. This condition precedent will not delay project start, but must be met before assistance will be provided to any laboratory outside Accra.

(e) Prior to the release of any funds for the purchase of any laboratory equipment for a specific laboratory, and prior to the release of funds from the Special Account for the construction of laboratories, the Grantee will designate sufficient numbers of individuals who will assume management responsibilities for the laboratory. This condition precedent must be met for each of the four laboratories proposed under this project.

B. Project Covenants and Negotiated Status

Certain Covenants are contained in the Family Planning and Health Project Agreement. All of these are in effect. However, to ensure adequate financial resources for relevant MOH departments, expeditious and proper handling of A.I.D.-financed commodities donated to MOH, and good personnel and financial management, the project Grant Agreement will be amended to include the following covenants:

g. The Grantee will covenant to fully fund all local resources needed for the implementation of the project, including project staff, buildings and rehabilitation of these buildings, and maintenance costs.

h. The Grantee will covenant to continue all activities after the end of the project period.

VIII. SUMMARY OF PROJECT ANALYSES

A. Summary of Technical Analysis

The HIV/AIDS epidemic threatens to produce severe social, demographic and economic consequences in Africa. Current studies of the epidemiology of HIV/AIDS in Africa demonstrate that sexually active adults and children under the age of five will experience the greatest negative impact of the disease. The World Health Organization (WHO) projects that, by the mid-1990's, AIDS will become the leading cause of death in African adults between the ages of 15 and 49 and will cause more deaths in African children under the age of five than either malaria or measles. The WHO estimates that between 1985 and 1990, AIDS added an average of 10% to the annual death rate for those Africans aged 15-49; by the mid-1990s, AIDS is expected to add more than 40% to this rate. However, according to the various demographic models of the HIV/AIDS pandemic in Sub-Saharan Africa, AIDS is not expected to reverse the positive total population growth rate during the 1990s and the next decade.

In Ghana, under-reporting is considerable for various reasons addressed in the institutional analysis. Limited serosurveillance data suggests that the national HIV seroprevalence in adults lies between 0.1% and 10% and that the prevalence of HIV infection appears to be rising in Ghana, as evidenced by the steady rise of seroprevalence data available from blood donors in Accra/Tema: 0% in 1986, 1.3% in 1988 and 2.3% in 1990. Estimates of national seroprevalence by assessment team members and national staff vary from 0.5% to 4%, with insufficient data available to choose among these figures. However, HIV seroprevalence still seems to be lower in Ghana than in many other African countries, including the neighboring country of Côte d'Ivoire, where HIV seroprevalence is estimated to be at least 10% in the capital city and 5% in rural areas. This strongly suggests that a "window of opportunity" for HIV prevention efforts currently exists in Ghana. Available information also suggests that this "window" will not remain "open" indefinitely in view of the sexual patterns in Ghana and the absence of relevant program interventions.

Cost effective interventions available to combat the spread of HIV/AIDS in Ghana include the promotion of condom use and the reduction in the number of casual sex partners through well designed information, education and communication (IE&C) programs. As projected by the HIV/AIDS demographic model of the U.S. Interagency Working Group on AIDS, a reduction of casual sex by 15% or condom use by 25% of urban couples would be require in order to see a decline in the epidemic.

There is a critical need to strengthen Ghana's health information system and laboratory infrastructure in order to generate the

data needed to define target groups, direct effective interventions and measure impact of program activities.

Multiple reinforcing channels of communication aimed at changing knowledge and attitudes of individuals and societies toward sexual behavior are most appropriate. Important targets include senior government officials and decisions makers in order to increase their understanding of the social, demographic and economic implications of the epidemic and to strengthen their commitment to HIV/AIDS prevention and control. Tools such as the AIDS Impact Model (A.I.M.) are available to Ghana to help strengthen the policy dialogue.

With regard to HIV testing, the presence of HIV-2 in West Africa, particularly in Ghana, requires use of tests or assays capable of detecting presence of the HIV-1 and HIV-2 virus types. The development of technologically-appropriate simple/rapid assays provide excellent opportunities for developing countries to establish viable facilities for HIV testing without equipment maintenance capabilities. However, to date, no reliable simple/rapid assay has received Food and Drug Administration (FDA) approval.

With the epidemiological data that is available, however, it is estimated that several countries of West Africa, including Ghana, are currently at the same point on the HIV/AIDS epidemic curve where countries, such as Zambia, Uganda and Tanzania, were in 1985-86. AIDS in Africa is no longer limited to the so-called "AIDS Belt" of Eastern, Southern and Central Africa and should be dealt with accordingly.

B. Summary of Institutional Analysis

The Family Planning and Health Program (FPHP) HIV/AIDS sub-project will implement assistance directly with public and private sector organizations and will be coordinated with other bilateral and multilateral donors. The Ministry of Health (MOH), the Ministry of Finance and Economic Planning (MFEP) and the Bank of Ghana (BOG) will be the primary public institutions involved. However, the roles of the MFEP and BOG in the implementation of the FPHP will be limited, but crucial. The MFEP will exercise oversight for local currency generated by the FPHP program assistance.

An institutional analysis of the MOH and the lead Government of Ghana institutions for the public sector implementation of the FPHP has identified several institutional constraints. Those constraints identified for the family planning and health information, education and communication (IE&C) activities of the FPHP are also relevant for the HIV/AIDS IE&C activities.

This analysis focussed on the National AIDS Control Program (NACP), the MOH health information systems, the MOH laboratory support and the current international donor support to the NACP. The NACP is currently organizationally situated within the MOH Epidemiology Division, one of 7 technical divisions under the Director of Medical Services. However, because a World Bank-stimulated reorganization of the MOH is currently pending, the exact placement of the NACP in the future is uncertain.

The organizational framework for program management includes: the National Advisory Council on AIDS (NACA), a multisectoral body; the Committee of Interested Parties (CIP), a donor-MOH coordination body; Regional and District AIDS Control Committees; the Program Management Unit (PMU); and Four Technical Subcommittees to advise the Program Management Unit (PMU) on specific HIV-related issues.

The NACP is greatly handicapped by several factors. These include the following: a lack of a policy making body, poor program planning and coordination, lack of authority for the Program Manager, lack of resources to support planned activities and lack of sufficient, pertinent, high quality epidemiologic, economic, and social scientific data relevant to the HIV/AIDS epidemic. Several donors, including the World Health Organization, and the United Nations Development Program will be providing assistance to overcome these constraints. The USAID project addresses these issues by initiating a cognizance building and dialogue component aimed at strengthening the political presence of the NACP and providing appreciable resources to support the NACP's Medium-Term Plan for HIV prevention.

Health Information activities currently are directed from several sites within the Ministry of Health: the Epidemiology Division, the Center for Health Statistics and separate, program-specific units outside of the Epidemiology Division (such as MCH for family planning, or the National Blood Transfusion Service). Equipment, materials, adequate trained personnel, and office space are all in insufficient supply. Reorganization of the MOH Health Information Systems (HIS) is underway to increase the effectiveness of the HIS. The FPHP will assist in upgrading the technical capacity of the MOH, HIS by providing technical assistance, equipment, materials and training.

With regard to the laboratory system, Ghana has adopted a system of a Central Health Laboratory with satellite clinical laboratories in all regions and districts. The Health Laboratory Services (HLS) of the MOH, is among other institutions responsible for the supply of personnel and logistics for the satellite laboratories. The HLS is severely deficient in infrastructure, personnel, equipment and transportation. Out of

934 approved personnel positions for various laboratory services, only 334 (35.7%) currently are filled.

The MOH laboratory structure includes the Public Health Reference Laboratory (PHRL), the 10 clinical regional laboratories (usually headed by laboratory technologists) and 110 clinical district laboratories, although most of these are ill-equipped, understaffed, and, in the case of the district laboratories, often non-existent. The Noguchi Memorial Institute for Medical Research (NMIMR) serves as the national reference Institute for medical research in Ghana. The regional and national laboratories are involved in HIV testing for AIDS case reporting, blood screening and sero-surveys. Specific constraints to HIV testing include the deteriorated laboratory services infrastructure and facilities, poorly trained and supervised laboratory personnel, the existence of only one HIV confirmatory center resulting in long delays in reporting, the absence of an HIV quality control program, lack of available resources for the laboratories and an inability to ensure regular supply of materials and test-kits, frequent breakdown of HIV equipment and lack of maintenance capabilities, and poor or insufficient storage facilities.

The MOH has begun to address the above constraints. Thus the MOH, through the support of the African Development Bank, has begun to rehabilitate MOH facilities and has established a Health Services Rehabilitation Unit. In addition, in September 1990, the MOH in collaboration with the Ghana Medical School established a two year Second Cycle Technologist Training Program to upgrade skills of technologists who already have had field experience. This program will increase the number of students to be trained annually in the School of Medical Laboratory Technology from 20 to about 40 in order to ultimately replace poorly trained technician assistants. About half of these are expected to enter public service, and the remainder will enter the private sector. The FPHP will support GOG efforts by rehabilitating key laboratory facilities and upgrading overall laboratory performance by providing a resident laboratory advisor, technical assistance, equipment/materials, and reagents.

The most serious constraint remaining is the lack of management personnel for the laboratory system. The project addresses this lack by providing training funds for individuals who have managerial capacity, and by requiring that the GOG specify the individuals who will have management responsibility before any project expansion occurs, equipment is ordered or construction begun.

Presently, inputs from the major international donors in Ghana are complementary and collectively constitute a comprehensive, large-scale HIV/AIDS intervention program. However, close

coordination is needed, given the magnitude of this external donor support.

C. Summary of Economic Analysis

The benefits of this program are difficult to measure because much of the project attempts to measure the problem, not cure it. Nonetheless, there are two portions of the project that have easily measurable benefits - the blood transfusion and IE&C components. These parts of the program will prevent over 2000 people per year from getting AIDS. When discounted to the current year, the economic benefits derived from these components alone exceed the cost of the entire project. The internal rate of return is calculated to be 15% in constant dollars.

D. Summary of Social Soundness and Beneficiary Analysis

The factors responsible for the spread of AIDS in Ghana are vastly different from the ones in the United States. Sexual behavior and migratory patterns follow trends that place different sectors of the population at risk. A different value system as regards sexual relations provides for a different pattern of spread.

Initial work has shown a high recognition of AIDS and a desire for more education. Many misperceptions exist and an education campaign would be well placed. Furthermore, health professionals lack the facilities that enable them to perform adequate jobs, especially in blood transfusions, and hence the morale to remain in their jobs.

Thus, given the opportunities presented, the channels that are receptive, an obvious gap that needs to be filled, and the crying need for resources, this project is most socially desirable, and likely to reach its objectives.

E. Women in Development

The control and prevention of HIV/AIDS is a priority concern of the Agency. The activities proposed herein addresses many of the concerns. Women will be some of the main beneficiaries of the sub-project. The technical appendix details the health benefits to women and their children.

Reducing the sexual partners 15% would contribute to the reduction in the spread of HIV/AIDS and reduce the death in women by the AIDS. By receiving knowledge and assistance to control and prevent the possible infection of AIDS, women are better able to control and plan their lives without the fear of disease.

Support for private sector enterprises, particularly through the social marketing mechanism (for condoms) strongly creates and

supports employment and income opportunities for women. In Ghana, similar to other West African countries, most wholesale and retail trade is in the hands of women. It is expected that the channels for trading in these goods would be improved and with it the income of women.

ANNEX A

PROJECT LOGFRAME

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Goal	Measure of Goal Achievement	For Project Goal	For Achieving Goal
The project goal is to lower fertility of the Ghanaian population through maternal and child health interventions as well as to reduce the spread of HIV/AIDS.	• HIV/AIDS infections case rate stabilized. • Prevalence of safe sex practices. • Morbidity due to HIV/AIDS infection reduced.	Laboratory, clinic and hospital reports. National and international surveys. Donor reports. GOG statistics compiled according to system established during this project.	Economic recovery will proceed and political stability will be maintained. Opinion leaders in both public and private sectors will actively support the program objectives.

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose	End of Project Status	For Project Purpose	For Achieving Purpose
To increase the effectiveness of HIV/-AIDS prevention and control efforts through expanded activities in IE&C, laboratory services, and health information systems.	• Index of AIDS knowledge, attitudes and practices among the general population increased. • National laboratory network system in place providing efficient and accurate diagnostic analysis and generating data needed for epidemiological surveillance. • Formal system in place to provide accurate and ongoing data to monitor prevalence of HIV infection and AIDS. • Threefold increase in condom use. • Decrease in sexual partners by 15%. • At least three ministries integrated the expanded AIDS prevention and control activities into their program.	GOG statistics compiled according to system established in this project. Health surveys, KAP surveys and updates. Condom sales reports. Donor surveys.	Public and private sectors will actively support HIV/AIDS prevention and control campaign.

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	• At least 10 NGOs actively involved in providing information and education to identified target groups.		
Outputs	Magnitude of Outputs	For Project Outputs	For Achieving Outputs
IE&C Component			
Improved IE&C structure at all levels - national, regional, district.	National AIDS Control Program manages 3 campaigns over the Life of the Project.	KABP surveys, health surveys.	
Integration of the expanded HIV/AIDS prevention and control IE&C activities into the programs of at least ministries of health, education and mobilization and social welfare.	HIV/AIDS prevention and control activities integrated into core program of Ministries such as: 1) Health 2) Education 3) Mobilization and Social Welfare	Market surveys, condom sales reports.	
Increase in prevalence of safe sex practices.	Threefold increase in condom use over baseline survey. 15% decrease in number of sexual partners over baseline figures.	Baseline KABP survey carried out by WHO	

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Health/Population NGO involvement in HIV/AIDS prevention and control IE&C activities expanded.	10 NGOs trained and regularly providing information on HIV/-AIDS prevention to communities and target groups.	Contractor reports. NGO reports.
<u>Laboratory Support</u>:		
Established, equipped and functioning zonal branches of Public Health Reference Laboratory (PHRL).	Accra branche of PHRL functioning. Laboratory services available at Accra, Kumasi and Tamale.	USAID site visits,REDSO/WCA engineer reports.
Established, equipped and functioning regional laboratory.	1 regional laboratory established and functioning at Sekondi-Takoradi.	Same as above.
Restructuring of laboratories management and standard guidelines and procedures established throughout NRL system.	Standards and procedures are formalized in writing and are understood and followed by laboratory staff.	NRL statistics compiled according to system established in this project.
Year-round testing of HIV at NRL.	Daily tests are being performed.	Same as above.

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<u>Health Information Systems (HIS)</u>			
Established HIV/AIDS Surveillance and data system.	Baseline data collected. Subsequent reports received from each region quarterly.	Institutional Contractor reports. Internal reviews. MOH reports. Evaluations.	
Studies carried out on sentinel surveillance.	High quality sentinel surveillance data received and analyzed semi-annually.	Same as above.	
<u>Cognizance Building</u>			
Adaptation of AIDS Impact Model to Ghanaian Situation	Showing Model to all PNDC Secretaries, Regional Secretaries and some district officials	Reports of subcontractors	Willingness of Officials to see presentation.
Observation Tour to other HIV/AIDS affected countries	Five High GOG Officials visit other AIDS affected countries to study policies and programs	Trip Report	Willingness of Officials to travel.

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Established data collection, analysis and program use in MOH.	HIS functioning with feedback mechanism in place.	Same as above.	
Surveys based on population carried out.	population based surveys accomplished at beginning and end of project.		
<u>Inputs</u>			
<u>A.I.D.</u>			
1. Technical Assistance: 2 long-term.	$5,000,000	Signed project amendment.	
Short-term advisors.		Signed contract.	
2. Commodities.		Project monitoring.	
3. Training.			
4. AID evaluations.			

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GOG

1. $500,000 in counterpart funds.	$ 500,000	GOG reports of counterpart fund use.
2. In-kind support personnel, facilities, equipment, supplies.	$ 790,558	
Total	$6,290,558.	

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ANNEX B

TECHNICAL ANALYSIS

BACKGROUND

Acquired Immune Deficiency Syndrome (AIDS) is an epidemic of global concern which is caused by infection with the Human Immunodeficiency Virus (HIV), of which there appears to be two types (or serotypes): HIV-1 and HIV-2. There is no known clinical difference between these two viral diseases.

Understanding AIDS involves understanding the development of the disease from infection to death. There are three phases in the development of the disease. The first one begins with the infection, and usually lasts around six to eight weeks, although cases up to three or four years have been reported. The characteristic of this phase is that blood tests for the presence of the virus are negative, but the individual is assumed to be infectious. The second phase begins when the infected person's serological tests become positive. This is known as the sero-positive phase or HIV seropositivity. In this phase the person is physically well--although more susceptible to other infections such as tuberculosis--but is definitely infectious. The third phase, begins when the person first becomes sick with the symptoms of AIDS. The illness phase usually lasts less than two years, although there are some indications that, because of the lack of medical facilities, many Africans die within four months of their diagnosis.

Since the disease goes through three phases, only the last of which is properly called "AIDS", throughout this paper the them "HIV/AIDS" will be used to refer to the entire course of the infection. The distinction between the three phases, particularly the difference between a person who is "HIV-seropositive" and a person who has AIDS, is critical to understanding the epidemiological information presented below. Currently there is little that can be done to help a person once they have the initial infection. Some treatments exist that will prolong the seropositive phase and prolong life after the development of AIDS, but these are extremely expensive and very toxic. This is the reason why prevention of the initial infection is so important.

Early in 1991, the World Health Organization's Global Program on AIDS (WHO/GPA) estimated that about nine million adults and close to a million children under age five throughout the world had been infected with HIV. Available data indicate that about 50% of the infected adults will develop AIDS and die within 10 - 12 years after acquiring their HIV infection. Virtually all HIV-infected persons will eventually develop clinical disease, i.e., AIDS, and ultimately die. There is no cure for HIV, and vaccines are thought to be years away.

I - Epidemiology of HIV/AIDS in Africa and Ghana

A) HIV/AIDS situation in Sub-Saharan Africa with respect to the overall health status

The HIV/AIDS problem emerged in sub-Saharan nations, while governments and Ministries of Health were struggling with the problems of high child mortality, high prevalences of common infectious diseases (e.g., malaria, diarrheal disease, acute respiratory disease, measles), high maternal mortality, a high population growth rate, and severe limitations of available resources. It is important to consider the HIV/AIDS problem in relation to the other leading causes of mortality and morbidity in Sub-Saharan Africa.

Taking into account extensive under-diagnosis, under-reporting, and reporting delays, the WHO/GPA has estimated that about 800,000 adult AIDS cases (a small portion of the six million Africans estimated to be HIV-infected) had actually occurred in Sub-Saharan Africa by early 1991. Thus, Sub-Saharan Africa, with less than ten percent of the world population, accounts for about two-thirds of the estimated global total of AIDS cases. Only about 86,000 AIDS cases actually had been reported in Sub-Saharan Africa by April 1991.

When assessing the impact of AIDS, age-specific mortality rates are important for two reasons. First, crude death rates for Sub-Saharan African countries are affected by the large number of deaths among children. For the Africa region, it has been estimated that deaths of children under five account for more than 45% of total deaths. Second, AIDS in Sub-Saharan African countries affects some age groups more severely, particularly children under five and sexually active adults.

The overall demographic impact of AIDS upon the health situation in Sub-Saharan Africa has been studied by WHO. A demographic projection model was used to estimate and project AIDS cases and deaths up to the mid-1990s. Using input parameters which reflected average rates for Sub-Saharan Africa, WHO estimated that between 1985 and 1990, AIDS deaths in the hypothetical "average" country increased the crude death rate by 0.3 per 1,000 population over what would have been expected in the absence of AIDS, and a further increase of 1.1 per 1,000 population (or 8.7%) is expected by the mid-1990s.

1) Demographic impact of AIDS among children

Unlike in developed countries, heterosexual transmission of HIV continues to be the predominant mode of the spread in Sub-Saharan Africa, accounting for 80 - 85% of all HIV transmission. Because of this, many African women of child-bearing age are infected with HIV. As with other sexually transmitted diseases (STDs),

there is a slight excess of women infected with HIV, for a variety of sociological and biological reasons. The overall male to female ratio in Africa is approximately 1:1.2 (Ghana has an even higher ratio of 1:2.5, as will be discussed below). Approximately one third of children born to women who carry the HIV virus will themselves be infected and ultimately develop AIDS. Perinatal HIV transmission from the mother to fetus or infant is a widespread and increasing problem in Sub-Saharan Africa. According to the WHO/GPA, by early 1991, about 900,000 HIV-infected infants had been born in Africa, and by the end of the 1990s, a projected total of 10 million or more such births may be expected. In addition, it is estimated that 90 percent of the estimated 400,000 worldwide pediatric AIDS cases have occurred in Sub-Saharan Africa.

At the start of the pandemic in Africa, almost no effect of HIV/AIDS on infant or child mortality was noticeable. Yet, by the mid-1990s, according to the WHO model, infant mortality is expected to be 4% higher than it would have been in the absence of AIDS, and the probability of dying before age five is expected to increase by 7.6% as a consequence of AIDS. The WHO projects that the expected infant and child deaths due to AIDS in Africa may increase child mortality by as much as 50 percent. By the mid-1990s the WHO-projected increase in AIDS mortality in children will begin to negate the reductions in child mortality achieved by child survival programs over the past two decades.

To compare AIDS with other leading causes of death in those under five, the WHO made estimates of disease specific mortality in children, based on other WHO programs and databases. These estimates were based on general assumptions and probabilities, and were intended to show expected general trends. Projections of under five death rates due to measles, malaria, diarrhea and AIDS were made. Those indicated that diarrhea will remain the predominant cause of death among children; malaria will continue to be important; and child deaths due to measles will decrease as a result of increasing use of measles vaccine. However, these estimates also show that before the mid-1990s, AIDS will cause more deaths in Sub-Saharan African children than either malaria or measles.

2) <u>Demographic impact on sexually active adults</u>

Beyond the impact of HIV/AIDS among children under five, HIV/AIDS primarily affects sexually active adults in their most economically productive years. This includes the trained labor force, the well educated, the military and members of social, economic and political elite.

High rates for other sexually transmitted diseases (STDs), especially those which cause ulcerative lesions such as chancroid and syphilis, are now believed to have facilitated the rapid

spread of HIV in sexually active persons in the region. Programs that reduce the frequency and duration of STDs may reduce the incidence of HIV/AIDS by 50%.

According to the WHO demographic model, between 1985 and 1990, AIDS increased the annual death rate for those Africans aged 15-49 by an average of 10%; by the mid-1990s, AIDS is expected to add more than 40% to that rate. For those aged 15-49, AIDS is expected to reverse the declining trend in adult mortality rates. It should be noted that these are national projections: in many urban areas a doubling or tripling of the total death rate in this age group is expected.

Experience in other African countries demonstrates that the more educated, better trained and wealthier segments of society tend to be also hard hit by HIV/AIDS. That is not the case with other endemic diseases such as schistosomiasis, guinea worm, onchocerciasis, tuberculosis and even malaria.

In developing countries of sub-Saharan Africa, all epidemiological data collected during the 1980s point to continuing large increases in HIV seroprevalence levels. For example in East and Central Africa, between one-quarter and one-third of all adults aged 15-49 living in some large urban centers had been infected with HIV by early 1991. On the basis of a large community-based survey, it was estimated that there were over 750,000 HIV-infected adults in Uganda alone by late 1988. Thus, during the 1990s and into the next decade, large increases of AIDS cases and deaths can be expected. The results of demographic modelling of the HIV/AIDS pandemic in Sub-Saharan Africa reflect these projected increases in AIDS deaths. Although these projections have to be interpreted cautiously, there can be no doubt that during the next several decades, AIDS will be the leading cause of death among young and middle-aged adults and will also be one of the leading causes of infant and child mortality in this region. However, according to the various demographic models of the HIV/AIDS pandemic in Sub-Saharan Africa, AIDS is not expected to reverse the positive population total population growth rate during the 1990s and the next decade.

B) Epidemiology of AIDS in West Africa.

Although individual cases of AIDS occurred in residents of West Africa early in the pandemic, the HIV epidemic subsequently spread within the region. Peculiar to the HIV/AIDS situation in West Africa are, 1) the presence of both HIV-1 and HIV-2, 2) the extreme differences in the prevalence of infection in different countries, 3) the frequent occurrence in some countries of simultaneous serologic reactivity to both HIV-1 and HIV-2, 4) the rapid development of the epidemic of HIV/AIDS in

certain geographic areas, and 5) the apparently more efficient spread of HIV-1 compared with HIV-2 through the region.

Published reviews give the impression that HIV/AIDS is rare in West Africa. However ,the epidemiologic situation has changed rapidly in some countries, while in others the lack of information prevents assessment of the magnitude and severity of the problem. By the end of 1990, a total of 7,702 cases of AIDS had been reported to WHO from West Africa, of which 83% were from just 3 countries, Côte d'Ivoire, Ghana and Burkina Faso. Côte d'Ivoire alone accounted for 47% of the total cases officially reported from the sub-region, and ranked sixth in the numbers of reported cases for the whole continent. Under-reporting is understood to be considerable; the comparison of reported adult cases in Cote d'Ivoire with expected cases generated by a computer model has estimated under-reporting at a ratio of 6.9 actual cases for every 1 case reported. Despite such under-recognition of the true magnitude of the problem, HIV/AIDS has been shown in Abidjan to be the leading cause of hospitalization, the leading cause of death in adult men, and the second cause of death in adult women, second only to maternal mortality (reported by Centers for Diseases Control (CDC)-RETRO-CI project, Abidjan).

C) Epidemiology of HIV/AIDS in Ghana.

The first reported AIDS case in Ghana was diagnosed in March 1986. Since then the total number of cases reported by the National AIDS Control Programme (NACP) has more than doubled each year to a total of 2,237 cases at the end of 1990. Unfortunately, this seriously underestimates the number of AIDS cases in Ghana, since confirmatory blood tests are required for a case to be reported, and these are often unavailable.

Estimates of national seroprevalence by assessment team members and national staff vary from 0.5% to 4%, with insufficient data available to choose among these figures. The prevalence of HIV infection appears to be rising in Ghana. Both serotypes of the virus which cause AIDS, HIV-1 and HIV-2, are present in Ghana. One series of studies shows how rapidly HIV is spreading in Ghana. Blood donors in Accra/Tema were sampled in 1986, 1988 and 1990. While none were found to be infected in 1986, 1.3% were found to be infected with HIV in 1988 and 2.3% in 1990. While the overall population may not be as heavily infected as this--one study of pregnant women in Accra in 1990 suggested that only 0.7% were positive--HIV/AIDS is affecting ever more Ghanaians. However, HIV seroprevalence still seems to be lower in Ghana than in many other African countries, including the neighboring country of Côte d'Ivoire, where HIV seroprevalence is estimated to be at least 10% in the capital city and 5% in rural areas. This strongly suggests that a "window of opportunity" for HIV prevention efforts currently exists in Ghana. Available information also suggests that this "window" will not remain

"open" indefinitely in view of the sexual patterns in Ghana and the absence of relevant program interventions.

The majority of cases in Ghana are reported in young adults. Early in the epidemic, female cases predominated (F:M ratio of 8:1), with many such cases occurring in women who returned from neighboring countries where they presumably had worked as commercial sex workers. The F:M ratio has steadily declined since 1986, as would be expected as heterosexual transmission of HIV within Ghana becomes more significant. Currently 2.5 Ghanaian women have been diagnosed with AIDS for every man. Unlike the rest of Africa where most cases are found in urban areas, in Ghana more cases have been diagnosed in Eastern (758) and in Ashanti (725) Regions than in Greater Accra (224). Few cases in children have been reported, but only limited attention has been given to the epidemiology of pediatric AIDS in Ghana.

II - Effective interventions available to combat the spread of HIV/AIDS

A number of interventions can halt or decrease the spread of HIV. Various data from developing as well as developed countries have shown that IE&C programs that promote behavioral changes and increased condom use are important tools in the control of HIV spread. On the medical side, blood screening, including reduction of inappropriate blood transfusion, and the control of other STDs can also help prevent the spread of HIV infection.

With the recent development of an HIV/AIDS mathematical model by the Interagency Working Group on AIDS Models and Methods (chaired by the U.S. Department of State), researchers have examined the potential effects of the HIV epidemic on a population, given a particular set of inputs on demographic processes, behaviors and disease parameters[1]. The inputs have been chosen to represent processes and behaviors not unlikely those found in the Sub-Saharan Africa region. The following is a description of four different possible interventions to be implemented in the 1990-1995 period to stop or decrease the spread of HIV. They are :

1) the promotion of condom use that results in the participation of certain percentage (5 to 25 %) of urban women by 1995;

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[1]. The demographic impact of an AIDS epidemic on an African country: Application of the IWGAIDS model. Peter Way and Karen Stanecki. Center for International Research, U.S. Bureau of the Census.

2) an STD control program that reduces the duration of STDs (by 5 to 25% in the urban population by 1995);

3) an IE&C program that reduces the amount of casual sex in the urban population (to 25%); and

4) a 100% blood screening program that becomes operational by 1995.

Condom use

In this example, a five year program of condom promotion which begins in 1990 and is fully operational by 1995 was modeled. In 1990, 0.4 % of the urban women and men are estimated to use condoms. With no condom intervention, the model projects the prevalence rate of HIV infection by the year 2015 to be about 17% in the urban areas. However, starting with an intervention program that results in the use of condoms by 5% of urban couples, the model projects an overall prevalence rate of less than 13% in the urban areas. An intervention that results in condom use by 25% of the urban couples, according to the model, will result in a declining epidemic with an urban prevalence rate of 0.6% by the year 2015.

Reduction in casual sex (the number of sexual contacts outside of marital sex)

Under the assumptions of the model, a reduction of casual sex by 15% would be required in order to see a decline in the epidemic.

STD control

A 5% reduction in the duration of STDs in urban areas would result in a 2 percentage point drop in urban seroprevalence levels in 2015 - from 17% to 15%. Larger reductions in STD duration would result in progressively larger decreases in seroprevalence levels in 2015.

Blood screening

The model predicts little impact on the growth of the epidemic due to blood screening. With a 100% blood screening program in place by year 1995, the urban prevalence rate for the year 2015 is projected to be reduced by less than 1 percentage point. Putting all available health funds into establishing a 100% screening program might not be as cost effective as other types of interventions.

However, at this point in time, blood screening is the easiest intervention, and is the only technology available which can demonstrate a quantifiable impact on HIV/AIDS over a short period of time. Politically, this can be used by MOHs to show their

commitment to HIV prevention and particularly their concerns about HIV infection among children. In many African countries, children are at great risk for acquiring HIV infection because they receive a large proportion of all transfusions (some of which may be HIV-contaminated) for malaria treatment and other related causes of anemia. Thus, through an initial successful blood screening program, the MOH could acquire more credibility in public opinion giving weight to campaigns urging sexually active adults to change sexual behavior.

In any case, blood screening programs should complement other interventions and not be considered in lieu of IE&C and STD control activities. Alternative interventions to screening blood for HIV also should be explored. These should include the review of blood transfusion practices to decrease unnecessary transfusions and the strengthening of blood donor recruitment in order to discourage those practicing high risk behaviors from donating blood.

The HIV/AIDS model shows also that greater impact might be achieved with large scale programs which include all four of the above-listed interventions.

Although these projections have to be interpreted cautiously, recent data from Zaire provide evidence that condom use can be effectively promoted. The Zaire condom social marketing project has dramatically increased sales of condom from 37,000 in 1987, 1,000,000 in 1988, 4,000,000 in 1989, 9,000,000 in 1990, to an estimated 15,000,000 in 1991. 90% of the condoms sold are reported to be used for HIV prevention and control. In addition, all the studies have documented reported behavior change in Zaire, especially in males because of the threat of AIDS. The three most frequently cited changes in behavior are a decrease in number of partners, less frequent or no sexual relations with prostitutes, and remaining faithful to one (or two) wives.

III. Components of an HIV/AIDS prevention and control program

A) Health Information Systems

Health information is required for multiple purposes by a HIV/AIDS Prevention and Control Program:

1) to establish baselines against which program outcomes and impacts can be assessed;

2) to define target groups for various activities, and target levels for various goals;

3) to quantify the level of program inputs achieved at each level and in each sector of the program;

4) to monitor the processes involved in program implementation;

5) to measure outcomes of program activities;

6) to measure impact of program activities.

Many of these needs involve the establishment of indicators which are useful and measurable. The most reliable indicator for the effectiveness of an HIV/AIDS prevention program would be changes in the sero-incidence (i.e., the number of new HIV infections acquired in a defined population per a specified unit of time) of HIV infection among selected populations. Sero-incidence should decline as the effectiveness of the prevention messages results in fewer new infections. Tracking sero-incidence, however, is presently a difficult task because of the problems associated with HIV testing. Collecting sera from a representative sample of the population for laboratory testing is difficult, especially when informed consent is required. Thus, a program can not rely exclusively on population based incidence rates to indicate effectiveness. Other measures can serve as proxies, or to be representative of a change in HIV sero-incidence. Included are incidence rates from anonymous, sentinel serosurveys using convenient, non-representative, sampling methods as well as the use of reductions in STD incidence, particularly gonorrhea to assess sexual behavior changes.

Without an effective vaccine or preventive/curative therapy, education is the primary intervention. Evaluation of a program's effectiveness must, therefore focus also on this intervention utilizing the currently available tools, such as research-focussed knowledge, attitudes, beliefs, and practices (KABP) studies.

Considerable work in the development of appropriate indicators has been undertaken by the WHO/GPA, USAID, CDC, and others in the past several years. Examples of such indicators are:

1. percentage of population reporting sex with more than one partner in the prior 6 months

2. number of condoms distributed and sold during the prior 6 months

3. percentage of the population who used a condom during the last sexual encounter

4. percentage of health care providers giving appropriate treatment for sexually transmitted diseases, per unit population

5. percentage of males aged 15-29 reporting having an STD within the past 6 months

6. age-specific HIV +/- syphilis seroprevalence among pregnant women aged 15-29

7. number of peripheral level nurses trained in HIV counselling and prevention;

8. number of district physicians trained in AIDS diagnosis and reporting;

9. number of hospital laboratories with personnel trained in proper use of appropriate HIV diagnostics;

10. numbers of cases of AIDS newly diagnosed by health facilities and satisfying case criteria specified by the NACP;

11. number of cases of tuberculosis newly diagnosed by health facilities and meeting criteria specified by the national TB control program;

12. proportion of female population aged 15-29 who have had sex in exchange for goods/money during prior 12 months.

The first six indicators listed above are those recently proposed for HIV/AIDS Programs by the Division of AIDS, S&T/Health, A.I.D.

B) Program management and coordination

In light of experience gained since the inception of AIDS control programs in Africa, the critical role of program management and coordination cannot be overemphasized. The urgency created by the HIV/AIDS epidemic and the massive resources involved require effective program management and coordination to make appropriate use of the resources and to avoid duplication of intervention efforts by various implementing agents. The effective absorption of the resources for HIV prevention requires the development of operational plans, decentralization of activities, and the coordinated involvement of different governmental and non-governmental organizations.

C) Information, Education and Communication (IE&C)

IE&C activities are currently the major intervention in HIV/AIDS prevention and control. To have an affect on knowledge, attitudes, and beliefs, IE&C efforts must be focused, sustained over a sufficient time period using multiple media, and used in close coordination with training, face-to-face interaction and instruction. Principles of social marketing provide the framework for action and involve the selling of a commodity or

practice. Principles of health education provide the behavioral analysis, and social sciences provide the context within which to implement programs. Without each of these pieces, IE&C programs will not be effective.

The more complex the behavior, the greater the challenge for IE&C to change knowledge, attitudes, beliefs, and practices. Behaviors required for prevention of HIV infection are not easy to change. Fertility and sexuality are at the core of being human, especially in the social context of African values. The behavior change required is long term, and unlike a one-time vaccine, requires continuous and repetitive actions. Thus for HIV prevention, a scientific and thorough behavioral analysis is crucial. This analysis should examine current practices and reasons for which a given practice persists and how alternative behaviors can be introduced, encouraged, and maintained over time.

The content and direction of any IE&C program should be based on the incidence, prevalence and distribution (i.e., within which various geographic or ethnic/tribal locations and among which population sub-groups in those locations) of HIV infection, and on the information obtained from knowledge, attitudes, beliefs, and practices (KABP) surveys. Such information helps define appropriate target audiences, and messages needed to reach them.

Even in the absence of an extensive surveillance system, appropriate target audiences can be identified, based on knowledge of HIV epidemiology and on experiences obtained by HIV/AIDS and STD programs in other countries.

To be effective, efforts should be targeted at many different audiences, from the opinion leader at the national level down to the local levels. Special efforts should be undertaken to continue to define and target appropriate high risk groups. Potential high risk groups include workers separated from families, traders or other travellers, and other groups of men, such as security forces (military and police), and prisoners. Special efforts should be made to target and educate the media, especially in light of reports of sensational news, such as unsubstantiated or folk cures.

IE&C materials should be based on formative research, guided by specific behavioral objectives, and should match very specific messages with very specific target audiences. Even the same behavior may need to be presented in different ways to different audience segments. For example, reasons for using a condom may be very different for commercial sex workers than for sexually active youth.

In order to be comprehensive, targeted IE&C programs should cover all possible behaviors: abstinence, delay of sexual activity,

decrease in the number of sexual partners, long-term and monogamous or closed polygamous relationships, and/or use of condoms for every sexual act, especially for infected individuals.

IE&C programs should ensure that condoms are provided regularly, in good quality, and at an affordable price. IE&C programs also should disseminate available research data about the already demonstrated effectiveness of condoms in HIV prevention in order to counter inaccurate information about the only available prevention technology.

Finally, interpersonal communication and community participation in the IE&C activities, as well as community based interventions, are critical.

D) Counselling

Counselling focuses on psycho-social issues, and support. Counselling around HIV testing is a problem, especially since confirmation of HIV seropositivity is rarely available in Africa, and Ghana in particular. This has major implications for HIV prevention counselling in a continent which accounts for most of the HIV infections. There is an urgency to set up viable testing facilities and algorithms, as well as to set up policies for HIV testing. Data from voluntary, anonymous pre-test and post-test counselling centers in Uganda and Rwanda have shown that knowledge of one's HIV sero-status is an essential element for behavior change.

Counselling is currently done mostly by health professionals in Africa, e.g., nurses in Ghana, but should involve non-health professionals as well in order to be able to cope with the inevitable increase in demand.

E) Laboratory Support for HIV/AIDS Diagnosis

A laboratory information network is essential to generate the epidemiologic surveillance data needed to effectively focus IE&C activities, including counselling and impact evaluations.

Laboratory facilities should be equipped with a stable and constant supply of electrical current and water. Every effort should be made to ensure that the laboratories are connected to a backup power and water supply. Exposed wall surfaces should be tiled with glazed ceramic tile to the height of 2 meters above the floor. Sufficient voltage stabilizers, fans, and air conditioning should be present to ensure proper performance and maintenance of the laboratory equipment. For general purpose needs these laboratories should also have at least: a water distillation unit, Class II Biosafety Cabinet, multipurpose EIA reader, reliable refrigeration, -20° C freezer(s), colorimeter,

pH meter, 4 binocular microscopes of sufficient caliber for general microbiological staining and hematology, analytical balance, 2 medium capacity incubators, as well as both high speed and clinical centrifuges. Facilities which serve also for blood banking should have a blood bank grade refrigerator(s), plasma extractor(s), and immunofuge.

With regard to HIV testing ,the presence of HIV-2 in West Africa and Ghana in particular require use of tests or assays capable of detecting HIV-1 and HIV-2 seroprevalence. The development of rapid or simple/rapid assays provides excellent opportunities for developing countries to establish viable facilities for HIV testing without equipment maintenance capabilities. However, to date, no reliable simple/rapid assay has received Food and Drug Administration (FDA) approval.

F) Clinical Management

In the absence of a cure for HIV, thousands of young adults are suffering from long and chronic illnesses ending in premature death. Medical services in Africa, already inadequate, will become more severely overburdened. In Abidjan, 60% of the beds in the infectious diseases wards are currently occupied by AIDS patients. In many hospitals throughout Africa, a fourth to a third (or more) of the patients in general medical wards are infected with HIV. At the same time, little can be done in the hospitals. Virtually all persons diagnosed as having AIDS die within a few years, and in Africa, most die within four months of diagnosis. With new therapies, survival has been increasing in developed countries from an average of less than 1 year to about 1-2 years at present, at a very high cost. For health care providers in Africa, the challenge is to provide people with AIDS with at least a bare minimum of medical and nursing care, as well as psychological and social support. Some Non-Governmental Organizations have developed new forms of care which incorporate home-based care and support for people with HIV/AIDS and their families. These approaches are more viable in resource-poor areas.

The AIDS epidemic also poses profound problems for the control of tuberculosis (TB) in developing countries. Because the immune suppression associated with HIV infection confers a greater susceptibility to many other infectious diseases, the introduction and spread of HIV can increase the prevalance of active TB in a population by logarithmic proportions. This has already happened in Africa. In several studies, the percentage of patients (both inpatients and outpatients) with TB who were HIV positive was 59% in Zambia, 58% in Uganda and 42% in Abidjan. With an increase in the prevalence and severity of tuberculosis in Africans occurring among a growing HIV-infected population, the secondary (aerosol) spread of TB into other populations which are not already infected with HIV or the TB bacterium will also

increase. The current strategies for the diagnosis ,treatment, and prevention of TB are seriously inadequate in the presence of HIV infection in the population. Studies are clearly needed to evaluate this problem and HIV programs need to monitor very closely trends of TB cases, since an increase in the incidence of TB is believed to be an early "sentinel" indicator for HIV infection or AIDS in developing countries.

Finally, because the presence of other STDs increases both the susceptibility to acquire and ability to transmit the HIV, the clinical management of STD patients, including prevention counselling, is an important strategy for HIV prevention and control programs. Relatively low priced drugs are available for the treatment of the most usual STDs, such as syphilis, gonorrhea and chancroid.

G) Policy Dialogue

For any HIV prevention and control program in Africa, there is an urgent need to engage top decision makers in dialogue concerning HIV in relationship to other health and socio-economic issues. The HIV/AIDS problem emerged in sub-Saharan nations while the governments and the MOHs were struggling with the inter-related problems of high child mortality, high prevalences of common infectious diseases (malaria, diarrheal disease, acute respiratory disease, measles), high maternal mortality, a high population growth rate, and severe limitations of available resources. The level of commitment observed throughout the continent suggests that most African leaders already regard HIV/AIDS as being endemic, similar to other and older infectious disease problems. Their understanding of the potential medical implications, and consequent socio-economic impact, of the HIV/AIDS epidemic is limited. An under-estimation of the importance of this problem has hindered many African nations (e.g., Cote d'Ivoire) in the initial phases of their response to the HIV pandemic.

The multisectoral implications of the HIV/AIDS epidemic dictates that HIV/AIDS prevention and control requires special attention for the following reasons:

- HIV/AIDS is not solely a health issue, but rather is a socio-economic problem impacting all aspects of society. HIV/AIDS is a major development issue not limited to any one sector;

- Exacerbation of the manpower shortage by HIV/AIDS will slow down the economic progress, already affected by a significant shortage of trained personnel across all sectors. Of particular importance is the growing amount of data from African countries which demonstrates that the more

and to encourage research activities and promote educational activities relating to HIV/AIDS;

2. Committee of Interested Parties (CIP), which includes the MOH, major donors, major NGOs, and the Noguchi Institute, to promote donor coordination and monitor implementation of NACP activities;

3. Regional and District AIDS Control Committees to promote decentralization of NACP activities;

4. Program Management Unit (PMU) at the central level to plan and coordinate all resources for the NACP as well as activities of the various subcommittees of the program.

5. Four Technical Subcommittees to advise the Program Management Unit (PMU) on specific HIV related issues. There are separate Technical Subcommittees on clinical management; education, counselling and rehabilitation; laboratory procedures and blood transfusion; and monitoring, evaluation, research, and surveillance.

In March 1991, WHO and the MOH conducted an extensive review of the first year implementation of the NACP's MTP. The review team pointed out very clearly that the overall weaknesses of the NACP were program management and the limited performance in IE&C activities, epidemiologic surveillance, laboratory support and blood screening, counselling and clinical management.

The NACP is greatly handicapped by several factors. These include the following:

a. lack of a policy making body -- the National Advisory Council on AIDS (NACA), which was not established until August 1990, is still inactive. Thus, there are no clear-cut strategic policies to direct NACP activities;

b. poor program planning and coordination -- this had been the responsibility of only one or two individuals, acting on an ad hoc basis. The PMU didn't obtain its full complement of professional staff until November 1990;

c. lack of authority for the Program Manager -- the position of the Program Manager is too subordinate in the MOH hierarchy to command sufficient authority for decision-making within the MOH and to stimulate the multisectoral support required for effective HIV/AIDS prevention;

d. lack of resources to support planned activities -- following the Donors Meeting for HIV/AIDS prevention, major donors such as WHO, UNDP and EEC did not deliver their pledged resources because of various bureaucratic reasons.

e. poor performance of the Regional and District AIDS Committees which have inadequate resources to support meaningful activities.

f. lack of sufficient, pertinent, high quality epidemiologic, economic, and social scientific data relevant to the HIV/AIDS epidemic -- This problem has substantially slowed NACP efforts to increase both government commitment and public opinion support for HIV/AIDS prevention programs.

g. lack of clear lines of authority/ responsibility between the Health Education Division and the NACP with regard to the establishment of the NACP's IEC Subcommittee and the implementation of the IEC component of NACP.

II - NATIONAL HEALTH INFORMATION SYSTEM

Epidemiologic and surveillance activities currently are directed from several sites within the Ministry of Health. Their placement within the revised Ministry organizational structure is not yet determined. Currently, epidemiologic functions are directed from several places:

1) The Epidemiology Division (supervises the communicable diseases reporting system, including immunizations, tuberculosis, and AIDS);

2) The Center for Health Statistics (supervises the "routine" reporting system from MOH health facilities, and collates data on both communicable and non-communicable diseases, as well as processes data such as admission rates, etc.);

3) Separate, program-specific units outside of the Epidemiology Division (such as MCH for family planning, or the National Blood Transfusion Service, which monitors HIV positivity rates in blood donors as part of its efforts to assure a safe blood supply).

This structure is similar to that encountered in many other countries, including the U.S., and is a logical one. However, epidemiologic capacity at each level is limited, and information is collected, collated, analyzed and fed back to varying and limited degrees.

A) MOH Epidemiology structure

1. The Epidemiology Division (Epi Div) coordinates such programs as the Expanded Programme for Immunization (EPI), the Diarrheal Disease Control Program (CDD), the tuberculosis control program, the leprosy control program, the Guinea worm

eradication program, and the national AIDS Control Program (NACP). There is no true national program directed towards two of the top three causes of morbidity and mortality, malaria and acute respiratory diseases. The Epidemiology Division presently deals only with communicable diseases. However with the Ghana Social Marketing (GSMP) Program, malaria drugs will begin to be socially marketed under the Ghana Family Planning and Health Program. Additionally, Oral Rehydration Solution (ORS) which is being socially marketed by the GSMP has played an important role in the diarrheal diseases program of the MOH.

The surveillance system concerned with communicable diseases has functioned for many years. The tiered organization of the health system is reflected in the flow of information into the Epidemiology Division. The Communicable Disease Report Form CD1 is to be completed weekly at the health unit level (hospital, health center, health post). This form is submitted to the District Medical Officer, who in turn forwards a copy to the Regional Director for Health Services. The regional officer compiles these reports into a monthly report, on Form CD2. Form CD2 is sent to the Epidemiology Division, which compiles the information by hand using a monthly National Summary Form, Form CD3. The compiled data are used at the national level for planning and evaluation. HIV/AIDS is not presently one of the diseases appearing on the communicable disease report forms. Annual compilations of communicable disease reports are prepared and sent to the regions. More detailed analyses are performed occasionally. For example, in March 1991 a summary letter concerning 1990 EPI performance (based upon administrative estimates) was sent to all regional health supervisors. A public health feedback bulletin (The Ghana Public Health Bulletin) was inaugurated in December 1989. Subsequent issues have not yet appeared.

Equipment, materials, personnel, and office space are all in insufficient supply. Two computers are presently located in the Epidemiology Division, and only one is available for the entry and analysis of surveillance data. Personnel with skill in the use of common software packages are few in number. While several individuals possess basic word processing ability, there is only one person in the Division (the Director) who is skilled in the use of data management or statistical software (eg. Lotus 1-2-3, DBase, Epi-Info, etc.). The NACP Coordinator for Epidemiology and Surveillance has basic knowledge of Epi-Info, but has only limited access to a computer. At present, most AIDS surveillance data are compiled and analyzed by hand.

2. Data on many diseases and conditions are collected by the Center for Health Statistics (CHS). This unit obtains morbidity data from the regions, who have in turn compiled it

from district reports. At present, the CHS receives only annual summaries from each of the regions, in the form of the Regional Annual Reports. The CHS compiles data on service delivery as well as on specific causes of morbidity. Mortality data are forwarded by individual hospitals directly to the CHS; consequently, the mortality data file is substantially less complete than the morbidity file (e.g., 20-30% completeness of reporting versus 80-85%). The CHS has no computers at present. Morbidity data are available on hand-completed summary sheets for 1990 ; the latest available mortality summary sheet is from the mid-1980's. Data from the CHS system frequently differs from those reported in the Epi Div system.

3. Other programs within the Ministry of Health collect various types of surveillance and management data as well. The extent of information collection depends to some degree upon the degree to which resources are available to the program. Within the Maternal and Child Health Division, which participates in the USAID-funded family planning and health project, a variety of types of information are routinely collected and analyzed. Quantitative information concerning the numbers and types of contraceptive products distributed, the numbers of clients accepting contraceptive services, and the numbers and types of training opportunities provided are among the data available. Data on condom supplies and availability throughout the country are provided primarily by this office.

Similarly, the National Blood Transfusion Service (NBTS) is monitoring its efforts to assure a safe blood supply. The NBTS is currently beginning to decentralize its activities. Transfusion Services have been established in some of the regional capitals, and blood donation coordinators have been posted. These persons participate in the recruitment of donors, and assist in the collection and forwarding of data concerning the screening of blood donors at the regional levels.

B. Current Structure for HIV/AIDS Surveillance

1. Flow of information

There are currently some mechanisms through which the NACP collects surveillance information concerning HIV/AIDS in Ghana:

a. The routine Epidemiology Division reporting of unusual diseases other than those currently listed on Forms CD1, CD2, and CD3. HIV disease is not presently included on those forms;

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b. The NACP has prepared two forms for use in case reporting, the "Test Form: Request for HIV Antibody Test" and the "Laboratory Request Form for HIV Antibody Test". These forms solicit identifiers, demographic data, and information on risk factors and clinical status concerning each person for whom an HIV antibody test is requested. Presently only the first form is in use. The form is to be filled out by the medical officer attending the person to be tested.

c. The NBTS currently is developing transfusion services throughout the country, beginning at the regional level. The central office in Accra receives summary statistics from each of the functioning regional services concerning the blood screening activities. These data are shared with the NACP.

d. The NACP has initiated a program of sentinel HIV serosurveillance in selected antenatal clinics (ANC) and sexually transmitted disease (STD) patients seen in selected polyclinics at several sites in Ghana.

e. Selected special projects have provided epidemiologic data concerning HIV seroprevalence in special populations. These have included isolated serosurveys in prostitutes, and an ongoing behavioral intervention conducted by the Ghana Armed Forces (GAF) in collaboration with AIDSTECH.

f. Behavioral data of epidemiologic relevance are or will be obtained by the NACP from two sources:

(1) a National KABP survey is planned for mid-1991, to be conducted with assistance from WHO.

(2) a variety of special projects conduct small scale KABP surveys in selected populations

2. AIDS case reporting issues

Reports of AIDS cases are made based on a new case definition which was adopted in October 1988. This case definition requires that, in order for someone to be considered an AIDS case in Ghana, the individual must exhibit two of the "major signs of AIDS" (as defined by WHO) and one "minor sign of AIDS" (also defined by WHO) plus laboratory evidence of HIV infection by the ELISA method, or the individual must exhibit three major signs with or without a minor sign plus evidence of HIV seropositivity by the ELISA method. The major and minor signs required are those described in the WHO clinical case definition (WHO:W.E.R. 1986;61:69-73). There have been no modifications made to the (WHO clinical) case definition for pediatric AIDS cases in Ghana (Asamoah-Odei, Antwi, Ahmed, et al:AIDS in Ghana, 1986-89, Epidemiological Aspects, Epidemiology Division, MOH).

It should be noted that, unlike current Ghana policy, the WHO clinical case definition of 1986 does not require the demonstration of laboratory evidence of HIV infection by any method. In Ghana, the adoption of a new AIDS case definition did not take into account the following:

-- the lack of regular supply of ELISA laboratory test kits;
-- the breakdown, over a short period of time, of 3 out of the 8 ELISA instruments provided by the donors;
-- the absence of maintenance capabilities of electronic laboratory equipment;
-- the existence of only one reference laboratory, which is required to perform a second ELISA on specimens received from the regions and districts before an AIDS case can be reported.

This situation has contributed to very significant delay (and obstacles in many cases) to the diagnosis and reporting of AIDS cases in Ghana. To address this problem, the NACP decided to accept reporting of cases with seropositivity determined by a technologically-appropriate simple/rapid test kit called "HIVCHEK". This test does not require any instrumentation or electricity to be performed, requires limited training and has a relatively long shelf-life. Despite this positive policy decision by the NACP, even regular supply of the HIVCHEK test kits has been problematic.

3. Collation and Analysis

Collation and analysis of data is performed primarily at the regional and central levels. At the central level, case reporting depends upon the receipt of documents associated with requests for confirmation of serologic tests. Such a system naturally risks substantial under-reporting of cases.

Few persons at the central level are currently able to perform data entry, and fewer still can analyze such data. Consequently, most data analyses are presently performed by hand. A limited number of subgroup analyses are performed, but substantially more information is requested on the "Lab Request Form" than is currently analyzed. For example, the reports available did not include analyses which examined results by age groups within sex categories, or which distributed cases by risk factors reported (other than travel abroad). This gap is a consequence of multiple factors: lack of time from competent personnel, lack of trained personnel, lack of equipment and materials, and lack of means to supervise adequately (thus, insufficient familiarity peripherally with the need to provide high quality reports to the central level).

4. Feedback

The importance of feedback to reporting sites is appreciated at the central level (e.g., previous efforts by the Epidemiology Division

to publish The Ghana Public Health Bulletin). The NACP Program Manager sends out a monthly summary of AIDS case reporting to the regional levels, and the Epidemiology Division provides annual summaries of reported communicable diseases. However, if regions do receive the former reports, most district levels do not. As a consequence, the NACP is perceived at the district level as providing no feedback. Further, the reports provided to the regions represent only regional totals, and thus do not provide adequate detail for use at the district level.

C. Current Structures for Related Surveillance

1. Sexually Transmitted Diseases (STD)

There is not presently a functioning STD control program in Ghana. No standardized guidelines for diagnosis or treatment are yet available. Surveillance of sexually transmitted diseases other than HIV/AIDS is presently limited. "Gonorrhea" cases are reported annually to the Epi Div and to the CHS. No data on the prevalence or causes of non-gonococcal urethritis can be obtained. No data can be obtained concerning antibiotic susceptibility of gonococcal isolates in Ghana.

2. Tuberculosis (TB)

Tuberculosis (TB) also represents a substantial health problem in Ghana. The CHS reported 15,324 cases of tuberculosis in 1990, for a national case rate of 95.1 per 100,000 persons. The Epi Div system reported a total of 5,409 cases of TB in 1990, with a case fatality rate of 1.1%. Resources available to the national program remain limited. Preliminary information suggests that TB is substantially under-reported. Comparison of AIDS and TB case rates by region can be used to suggest areas where AIDS under-reporting may be an issue.

3. MCH/Family Planning

Because the MCH Division has enjoyed substantial support from USAID and other donors, it has been better able to develop and support an information system. The 1990 Annual Report of the MCH/FP program includes tables on antenatal, child health, and family planning service delivery in those facilities directly involved with the MCH/FP program. The MCH reporting system thus duplicates parts of the Epi Div system (e.g., reports of children vaccinated in MCH facilities). This program does maintain useful data on the numbers of condoms distributed through public sector health facilities.

III - PUBLIC LABORATORY SERVICES

A) MOH laboratory structure and current support for HIV testing

Ghana has adopted a system of a Central Health Laboratory with satellite clinical laboratories in all regions and districts. The Health Laboratory Services (HLS) of the MOH, which is currently within the Pharmacy & Supply Division, is among other things responsible for the supply of manpower and logistics for the satellite laboratories. It is involved in the training of technologists and technicians in collaboration with the School of Medical Laboratory Technology from which about 30 students graduate each year.

The HLS is severely short of manpower, infrastructure, equipment and transportation. Out of 934 approved personnel positions for various laboratory services, only 334 (35.7%) currently are filled. The 11 approved positions for Deputy Chief Laboratory Technologists currently are vacant, as well as the positions of the Chief Biologist, the Senior Biologist, the Chief Biochemist and the Principal Biochemist. 162 (48.5%) of the 334 filled positions are Laboratory Assistants. With the exception of the currently Acting Head of the HLS, no one within the laboratory services has academic credentials at the university level.

The HLS currently is responsible for the supply of HIV test kits to the MOH laboratories at the regional and district level in an ad hoc basis when kits are available. Regional and district hospital personnel must travel to Accra and/or their regional Health Services to collect their supply of kits since the HLS currently has no transportation capability for distribution.

There is a Public Health Reference Laboratory (PHRL) which serves as the national reference laboratory for microbiology and for investigation of food, water and drugs. The PHRL is under the authority of the HLS. The laboratory is headed by a medical doctor with a master's degree in medical microbiology.

There are 10 clinical regional laboratories, which are usually headed by laboratory technologists. The system is intended to have 110 clinical district laboratories, but many if not most of these do not exist. Currently eight regional laboratories, including the Publich Health Reference Laboratory, have HIV testing equipment, but a recent survey found that only five of these were actually working. Some district laboratories have this testing equipment, particularly when they are part of a religious mission sponsored district hospital. Most district laboratories do not have HIV/AIDS testing equipment.

The Noguchi Memorial Institute for Medical Research (NMIMR) serves as the national reference Institute for medical research in Ghana. It is a well-equipped institution with 4 units: Epidemiology,

Microbiology, Virology and Nutrition, and 3 field stations. The Institute has maintained close ties with Japan, which funded the construction and equipment, and still assures biannual maintenance of equipment by experts from Japan. The Institute also has its own maintenance unit. It also is involved in training of laboratory technologists and technicians and has established collaborative research networking and training with the World Health Organization.

The above-mentioned laboratories, to date, are involved in HIV testing as follows.

1) AIDS Case Reporting

A completed form for use in case-reporting is required by all Ministry of Health HIV-testing laboratories (Accra, Regional hospitals). Those forms whose specimens yield a positive antibody test at the district or regional level are forwarded, accompanied by a serum specimen, to the national Public Health Reference Laboratory (PHRL). At the PHRL a second test is performed, and all positive specimens are forwarded to the Noguchi Memorial Institute for Medical Research (NMIMR), where all confirmatory testing is presently performed, using immunoblot methods. The PHRL and 8 out of 10 regional laboratories use ELISA instrumentation, whereby in three of the regional laboratories, visual ELISA methodology is used because of breakdown of the ELISA equipment several months ago. Two regional laboratories do not yet have ELISA equipment. Since adoption of the 1988 case definition, which requires HIV seropositivity by ELISA, it occasionally has been necessary for the PHRL, and more often for the regional laboratories, to rely upon simple/rapid peptide based assays (e.g., "HIVCHEK") rather than ELISA methods for HIV antibody testing.

2) Blood screening

The 8 clinical regional laboratories also are performing blood screening for HIV at the regional level. Following an evaluation of three rapid/simple tests for HIV screening (which was funded by A.I.D. and performed, in part, in Ghana), the "HIVCHEK" method was recommended for use by district hospitals which transfuse blood. Of those hospitals employing the use of the simple/rapid assays, only a limited number of hospitals (mainly the Christian hospitals) managed to maintain an adequate supply of reagents for their blood screening need. District hospitals without HIV screening facilities are required to forward samples to the regional hospitals. This does not necessarily occur.

As already stated above, the National Blood Transfusion Services is in the process of developing Blood Transfusion Services throughout the country. Four regional centers are scheduled to be established in Sekondi, Koforidua, Kumasi and Tamale. At present, the Blood

Transfusion Services exist as a separate entity only in Accra, however, HIV blood screening is still performed by the PHRL.

3) Sero-surveys

As stated above, the NACP has initiated a program of sentinel sero-surveillance in selected antenatal clinics (ANC) and sexually transmitted disease (STD) patients seen in selected polyclinics at several sites in Ghana. The sentinel sero-surveillance is also supported by the clinical regional laboratories, the PHRL and the NMIMR.

It should be noted that the Ghana Armed Forces has established its own HIV testing, including confirmatory facilities, at the Accra Military Hospital to support ongoing sentinel surveillance among the military, screening of recruits and IE&C interventions. Since this test kit is based on a batch of 96 tests, it is not appropriate for individual diagnostic tests or blood transfusion screening.

B) Specific constraints to HIV testing

1) Deteriorated laboratory infrastructure and facilities

Laboratory services in Ghana have undergone several decades of neglect. This is evident in the deterioration of both the laboratory services infrastructure and facilities. This significantly compromises Ghana's capability for HIV testing.

The PHRL has been without appropriate regular maintenance for over a decade. This has resulted in a seriously deteriorated facility that can no longer be expected to function as a credible laboratory. Estimates of the cost to overhaul blood transfusion services through the establishment of five National Blood Transfusion Service (NBTS) Centers are between $2,000,000 - $3,000,000 over the next five years. An estimate of the cost to establish a laboratory infrastructure and to supplement national, regional, and district laboratory services would be two to three times that amount to meet the NBTS needs.

Over the years, the demands on the PHRL have substantially increased as it is the only national public health and reference laboratory serving a population that has more than doubled in size. Urgent needs for HIV blood screening for the Greater Accra Region and the requirement to provide HIV/AIDS diagnostic and surveillance, as well as reference services, have greatly taxed the already overburdened laboratory. The physical condition of the PHRL is appalling - cluttered, crowded and unkept, due mainly to the presence of unserviceable equipment. Thus, the HIV confirmatory testing which should be done at the PHRL is currently being done at NMIMR. NMIMR currently is unable to satisfy the MOH

needs for confirmatory testing and is actively exploring ways to rid itself of this responsibility.

The regional laboratories also lack adequate maintenance capabilities and space, resulting over the years in a dilapidated working environment (refer to Engineering Analysis). They also lack basic laboratory necessities such as a stable and constant supply of electrical current and water, voltage stabilizers, fans, air conditioning, etc.

It should be also noted that low morale, deplorable working conditions, and inadequate staffing has recently led to labor unrest among the employees.

The Ministry of Health, through the support of the African Development Bank, has begun to rehabilitate MOH facilities and has established a Health Services Rehabilitation Unit. The ERGS Consortium has been selected through an international bidding process and are currently working for the MOH in three southern hospitals.

2) Poorly trained and supervised laboratory personnel

The state of laboratory skills observed during recent field visits was often quite limited. Substantial deficiencies in training, and supervision were identified. For example, no regional or district level laboratory facilities provided evidence of adequate and ongoing quality control procedures in the area of HIV antibody testing. No supervisory framework exists currently for regional and district laboratories. However, in September 1990, the MOH in collaboration with the Ghana Medical School established a two year Second Cycle Technologist Training Program to upgrade skills of technologists who already have had field experience. The first graduating class included 14 technologists. In addition, the MOH has increased the number of students to be trained in the School of Medical Laboratory Technology from 20 to about 40 in order to replace, over the next few years, poorly trained technician assistants,

Management issues will be what determines the success or failure of any assistance to the National Public Health Reference Laboratory. The project design should take the lack of trained personnel into account, and should not begin construction or supply of new equipment until sufficient slots have been filled by qualified personnel to ensure that the new laboratory will function. Additionally, the project should explore ways of encouraging students to study appropriate fields of biomedical science.

Currently, there is sufficient commitment to support a laboratory at the national level with sufficient adequately trained staff. It is still unclear whether sufficient staff can be made available to

provide these services outside Accra. While establishing the national Public Health Reference Laboratory, a thorough analysis must be carried out to determine the most beneficial way to meet the need for adequate laboratory services. Given the difficulties that the Ministry of Health has had in providing these in the past, and the difficulties that it is still encountering in recruiting qualified candidates for public service, it may be more appropriate to explore the use of the private sector to provide the necessary laboratory support services.

3) Absence of an adequate national framework for the development of Ghana-specific algorithms and quality assurance programs for MOH HIV/AIDS-related public health activities.

The current Ghana HIV testing algorithm require confirmation of HIV seropositivity by immunoblot procedures. Additionally, AIDS case-reporting in Ghana requires demonstration of HIV seropositivity by the ELISA method, both by the regional laboratories and the PHRL. The following problems need to be addressed urgently in order to establish an appropriate country-wide HIV testing framework:

- existence of only one overburdened HIV confirmatory center which results in long delays in providing results of confirmatory HIV antibody testing to the PHRL, the regional and district levels;

- low profile of the PHRL in which it's role has been limited to repeat ELISA testing from regional laboratories and the performance of HIV blood screening for the National Blood Transfusion Services; no laboratory quality control program is yet available from the PHRL;

- lack of available resources to laboratories and an inability to ensure regular supply of materials and test-kits at the central, regional and district levels. The bulk of the laboratory supply come from the Supply Commission. This institution has not be able to respond to the national needs for years. Some funds (1 million cedis last year) have been allocated to the Health Laboratory Services by the MOH to purchase directly some laboratory materials from the domestic market. It should be noted that the HIV testing kits are not yet available in the domestic market and have to be imported;

- frequent breakdown of equipment and lack of maintenance capabilities; the maintenance of ELISA testing equipment has been rendered impossible, due more to the absence of needed electronic parts in the domestic market than to the lack of in-country expertise in electronics. ELISA equipment also has suffered because of the lack of voltage stabilizers.

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- insufficient and poor storage facilities, as well as a lack of available transportation; for example, the national laboratory storage facility owns only 4 refrigerators and no vehicles to transport materials and reagents to the regions.

IV. BILATERAL AND MULTILATERAL DONOR SUPPORT FOR HIV/AIDS PREVENTION AND CONTROL

At the Ministry of Health/World Health Organization (MOH/WHO) Resource Mobilization (or Donors') Meeting for HIV/AIDS prevention and control held September 4th and 5th, 1989, a total of $ 3.224 million was pledged by several multilateral and bilateral donors for Ghana's National AIDS Control Program (NACP).

A. United States Agency for International Development (USAID)

A.I.D has provided approximately $ 1,300,000 to the National AIDS Control Program through two U.S based contractors, AIDSTECH and AIDSCOM. The following activities have been funded:

- collaboration through AIDSTECH with the MOH to expand Ghana Armed Forces-funded pilot AIDS education and condom distribution program, including establishment of an HIV sero-surveillance system among the Ghana military;
- evaluation of rapid/simple tests for detection of HIV antibodies;
- mass media campaign for HIV/AIDS prevention and control.

Accomplishments of the AIDSTECH-supported activities include to date:

- establishment of an HIV testing facility, including a confirmatory facility at the military hospital in Accra; the first sero-prevalence data among the military are already available;
- establishment of a condom distribution network within the Ghana military distribution system;
- successful field testing of various simple/rapid tests (which require no instrumentation) in collaboration with a Ghanaian Institution, the Noguchi Institute for Medical Research. As a result of the evaluation, the NACP decided to supply the district hospitals with the rapid test kit, HIVCHECK.

With regard to AIDSCOM, this U.S.-based contractor has had difficulties in implementing a national AIDS IE&C campaign. Part of this was due to an A.I.D./Washington restriction, which

precluded them from subcontracting with any government entities. (This prohibition did not apply to AIDSTECH.) The inability of AIDSCOM to establish an in-country presence, either with Ghanaians or expatriates, has limited their activities to organizing a national workshop on HIV/AIDS counselling. After eighteen months of intermittent work, the development of a mass media campaign for HIV/AIDS prevention and control is being designed and is expected to be launched in about three months.

B. Other Multilateral and Bilateral Donor Activities

Support from other major donors include the following:

-- World Health Organization's Global Programme on AIDS (WHO/GPA)

WHO/GPA pledged $ 920,000 to Ghana to assist in the following:

-- the NACP management;
-- the establishment of a sentinel sero-surveillance system;
-- provision of laboratory equipment and test kits;
-- nationwide Knowledge Attitudes Practices survey with regard to HIV/AIDS.

A delay in releasing the multilateral funds, due to the fact that there was no WHO/GPA Administrator assigned to the program until August 1990, caused a corresponding delay in the implementation of WHO supported-activities. Because of the critical role of WHO in supporting the NACP management, and the importance of pertinent epidemiological and KABP data to support Information, Education & Communication interventions, the overall HIV/AIDS prevention and control program was adversely affected. Since the WHO/GPA Administrator is now in place, management of the NACP can be expected to improve.

It also should be noted that the Overseas Development Administration (ODA) provided $ 200,000 to the NACP, through the multilateral WHO funds, to be specifically allocated to Ghana.

-- United Nations Development Programme (UNDP)

UNDP pledged $ 606,810 for strengthening the psycho-social counselling skills and clinical support for HIV sero-positive individuals and AIDS patients. However the project document has only recently been signed. The project has the following objectives:

-- development of counselling guidelines;
-- trained counsellors in every district hospital;
-- improved clinical management for AIDS patients;

-- improved capabilities for District Health Management Teams to plan and implement AIDS activities in their communities.

-- European Economic Community(EEC)

EEC assistance in the amount of $ 340,000 will support Sexually Transmitted Disease (STD) surveillance and will improve clinical management of STDs. Details of the project are not finalized as yet.

-- Swedish International Development Agency

An amount of $ 114,000 was put at the disposal of the Adventist Development And Relief Agency (ADRA) by Swedish International Development Agency (SIDA) to carry out activities in the area of information, education and communication activities among long-distance truck drivers.

-- Gesellshaft für Technische Zusammenarbeit (GTZ)

GTZ and the MOH recently signed a Memorandum of Understanding for GTZ assistance in HIV prevention and control in the Upper West Region. GTZ will provide a GTZ resident advisor and assist the following activities:

-- strengthening of blood transfusion services
-- strengthening STD control
-- setting up HIV sentinel-surveillance system
-- supporting clinical management of HIV-seropositives and AIDS patients
-- strengthening IE&C activities in HIV prevention.

-- Overall Donor Support for HIV/AIDS in Ghana

Currently, all financial resources allocated to the National AIDS Control Program in Ghana are provided by external donors. There is, at present, no line item in Ghana's national budget for HIV/AIDS prevention and control. This situation points out again the current low position of the NACP in the overall MOH priorities and the need to increase the understanding of GOG officials regarding the importance of the HIV/AIDS problem.

V Conclusion

The problem of HIV/AIDS is of a magnitude which demands substantial donor assistance, but more importantly, the effective use of those resources. Overlapping and duplication must not occur if the NACP is to become effective. Presently, inputs from the major donors are complementary, e.g., EEC support of STD surveillance and clinical management and UNDP support of counselling. Care must be

taken to ensure that coordination among the donors remains strong, especially in view of the additional and substantial U.D. Government inputs planned under this project. Regular meetings among donors must be held and information on each other's activities must be shared and kept up to date in order to ensure optimal effectiveness of donor assistance to the Ghana AIDS control program.

USAID support complements other donor efforts which will provide large scale interventions. This project specifically addresses institution building in national health information systems and laboratory support as well as provides additional funding for a comprehensive expansion of IE&C activities within the same framework as the Family Planning and Health Program.

The renovation of selected laboratory facilities is urgently needed. The renovations should provide for a safer work environment, improved refrigeration and reagent storage, improved ventilation and air conditioning as needed; the renovation should upgrade and stabilize the electrical circuits and power supplies. The renovation of selected laboratories and the provision of equipment such as computers will improve working conditions and efficiency of the limited personnel. However, the laboratory system cannot be rebuilt unless sufficient motivated, adequately trained staff are made available. Development of an improved laboratory infrastructure should proceed at a measured pace, based on available staff and management structures throughout the life of the project.

The segregation of diagnostic and confirmatory testing activities from university and research facilities will be addressed in restructuring of the MOH PHRL and clinical laboratory services as well as laboratory management to recognize functionality and efficiency. The decentralization of the diagnostic reference services is also needed to improve communication, logistics and reduce frequency of movement of the staff and blood specimens. The decentralization will also support planned decentralization of the National Blood Transfusion Services by the MOH.

Establishment of a Quality Control Program and Technical Assistance from the PHRL will be critical to the development of a specific national testing framework in Ghana.

At the regional clinical laboratories, it is recommended that simple/rapid tests be supplied and thus reduce future equipment maintenance and/or replacement costs. The critical importance for further evaluation of simple/rapid tests in developing adequate testing algorithms for Ghana cannot be overemphasized .

A comprehensive training program for laboratory technologists and technicians needs to be developed by the MOH to address important constraints relative to the lack of qualified personnel and

continuing education of existing laboratory staff. Expansion and career development of the staff of the National Reference Laboratory is critical. The MOH has begun to address this problem with the establishment of the Second Cycle Technologist Training Program.

The lack of highly qualified personnel in the laboratory field and the poor situation of laboratory services in Ghana, as well as the complexities of the problems to be addressed to improve the situation, provide a strong rationale for a resident laboratory advisor. This advisor could also coordinate the short term assistance needed for the improvement of the Health Information System.

The reorganization of the MOH will be critical to the NACP. USAID will maintain policy dialogue to ensure that the NACP is given enough authority within the MOH organizational structure to enable the NACP to direct and conduct an inter-sectoral, multidisciplinary national HIV/AIDS program. The project will address specifically the critical need to improve the cognizance and appreciation of the dimensions of the HIV/AIDS among senior government officials.

The timely rehabilitation of selected laboratory facilities will be critical for the overall success of the project. The timely release of the counterpart funds by the MFEP to the MOH will be closely followed by USAID.

ANNEX D

FINANCIAL SUSTAINABILITY AND RECURRENT COSTS

The financial sustainability of the HIV/AIDS component of the Ghana population and family planning program is critical to the achievement of sub-project goal. The project relies primarily on mobilization of donor resources to implement project activities as well as to raise the awareness of decision and policy makers to the magnitude of the problem and the resources required to control and prevent HIV/AIDS infection.

The GOG has made initial commitments by establishing the national AIDS Control Program and National Advisory Council on AIDS. Budget line items exist for these bodies. In the MOH, budget positions exist for the laboratories workers, although they are currently vacant. A major purpose of the program assistance component of the FPHP is to create a policy environment which will enable the private sector to expand its role as part of a concerted national effort to attain not only its population and family planning goals but also the prevention and control of HIV/AIDS. Until this becomes a reality, the Ministry of Health will require substantial resources to support the HIV/AIDS control interventions.

In the current project, the MOH will fund the rehabilitation of the national and regional laboratories and cover recurrent costs. The main recurrent cost increase as a result of this project comes from staff positions and maintenance of the laboratories, vehicles and equipment. These costs are already programmed into MOH budgeting. Other recurrant cost increases come from the increased use of laboratory reagents. While this has not been budgeted, it is not a large amount, representing approximately $200,000 per year.

Barring an increase in overall MOH budgetary increase, an improvement in allocation to primary health care including HIV/AIDS control and prevention can be achieved through reallocation of MOH resources from mainly curative to primary. The GOG provides 9% of its national budget to health and considers primary health care as a national priority. It is not unreasonable therefore to project that expenditures in this area will increase as long as the Economic Recovery Program produces positive growth in GDP and revenue.

ANNEX E

ECONOMIC ANALYSIS

SUMMARY

Despite our lack of knowledge about the effectiveness of AIDS interventions, it can be confidently said that this program is economically justified. The program is difficult to evaluate because there are few tangible outputs. This analysis deals with the outputs of only two parts of the project: the IE&C campaign and the blood transfusion program. Rough estimates of the benefits of these outputs alone suggests that, even with conservative assumptions, the internal rate of return of the project is at least 15% in real terms.

IE&C CAMPAIGN

For the information campaign, USAID/Accra was fortunate enough to have a recent study which showed the effect of an IE&C campaign on the demand for contraceptives in three regions of Ghana. It was determined that those three regions had significantly more new users of contraceptive devices due to the IE&C campaign.. The cost per new user was $10.60. If the AIDS information campaign is equally effective, it is estimated that for each year the project continues, it could encourage 18,858 additional individuals to use protective devices. Based on the average prevalance of AIDS virus in the population, between 528 and 905 of those individuals will have the AIDS virus. Over the course of a year, each person with the virus has a 37.5% chance of infecting someone else. (This is based on the average number of sexual contacts per year (150) multiplied by the probability of contracting AIDS per contact (.225%)). Thus, during the first year it is estimated that the IE&C campaign would reduce the number of AIDS infections by 178. The study assumed that 25% of new users would revert each year. Hence, 25% of users who started using condoms in 1991 will stop after 1 year, and only 396 will continue to use condoms the second year. The following year, 25% of the 396 will discontinue use, and so forth. In 1995 a total of over 2,300 people infected with the AIDS virus will be using condoms, which will prevent almost 800 infections that year. By 2012, a total of 4,800 infections will be prevented.[1]

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[1] The continuation rate was based on a study conducted by the Ghana Registered Midwives Association which found an extremely high continuation rate among men who obtained contraceptive information. Even so, by 2010, .our assumption implies that only 17 people continue to practice safe sex due to this program.

Table E.1

IMPACT OF IE&C CAMPAIGN ON AIDS TRANSMISSION

YEAR	NEW USERS OF CONDOMS DUE TO IE&C PROGRAM	% OF NEW USERS WHO HAVE AIDS VIRUS	NO.OF USERS W/AIDS VIRUS	NO. OF AIDS CARRIES WHO CONTINUE TO USE CONDOMS AFTER 1ST YEAR	TOTAL NO. OF AIDS CARRIERS USING CONDOMS	NO. OF AIDS INFEC TIONS PRE-VENTED
1991	18858	2.8%	528	0	528	178
1992	18858	3.3%	622	396	1018	343
1993	18858	3.8%	716	763	1480	499
1994	18858	4.3%	810	1110	1921	648
1995	18858	4.8%	905	1440	2346	791
1996				1759	1759	593
1997				1319	1319	445
1998				989	989	334
1999				742	742	250
2000				556	556	187
2001				417	417	140
2002				313	313	105
2003				234	234	79
2004				176	176	59
2005				132	132	44
2006				99	99	33
2007				74	74	25
2008				55	55	18
2009				41	41	14
2010				31	31	10
2011				23	23	7
2012				17	17	5

TOTAL CASES PREVENTED 4807

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BLOOD TRANSFUSION PROGRAM

If the program succeeds, AIDS testing will increase rapidly over the five year period. Following the initial screening, tests to confirm AIDS will be made on 1000 individuals the first year, rising to 2,500 the final year. It is estimated that 80% of these confirmation tests will be positive. The economic analysis makes the assumption that each confirmation will prevent the transmission of the HIV virus to one person. The analysis also assumes that the project will install the infrastructure needed to conduct tests, and that tests will continue to be conducted after the project is finished. In sum, there will be 2000 fewer AIDS cases per year once the program is completed.

TABLE E.2
IMPACT OF BLOOD TRANSFUSION PROGRAM ON AIDS TRANSMISSION

YEAR	NUMBER OF CONFIRMING TEST PERFORMED	NUMBER OF HIV INFECTIONS CONFIRMED	NUMBER OF NEW INFECTIONS PREVENTED
1991	1000	800	800
1992	1500	1200	1200
1993	2000	1600	1600
1994	2500	2000	2000
1995	2500	2000	2000
1996	2500	2000	2000
1997	2500	2000	2000
1998	2500	2000	2000
1999	2500	2000	2000
2000	2500	2000	2000
2001	2500	2000	2000
2002	2500	2000	2000
2003	2500	2000	2000
2004	2500	2000	2000
2005	2500	2000	2000
2006	2500	2000	2000
2007	2500	2000	2000
2008	2500	2000	2000
2009	2500	2000	2000
2010	2500	2000	2000
2011	2500	2000	2000
2012	2500	2000	2000

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ECONOMIC IMPACT

AIDS is a time bomb that takes an average of eight years after infection before symptoms develop. Individuals are then sick an average of one to one and a half years before they die. We calculate that the typical person will become sick at the age of 32, and develop symptoms at the age of 40 when the person is near the height of their economic productiveness. We have therefore made the conservative assumption that the individual would lose one year of work resulting in the loss of $681 in GDP. This was the average GDP per adult in 1990.[2] Those losses overwhelm the $5 million cost of the project; indeed, ignoring the time value of money, the economic benefit of the AIDS project is $26 million greater than the cost.

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[2] Obviously, this is a conservative assumption in that the true economic impact is the loss in production over the remainder of the victim's expected working life, not just for one year. A person of 40 has perhaps 20 years remaining in his work life, so one could argue that the economic impact is much higher than calculated in this analysis. One should recognize that medical technology will certainly improve by 1999 when today's newly infected adult will develop symptoms. By 2010 or 2020, a cure might be possible. Consequently, this assumption is less conservative than it might appear. Note, however, that even if a cure is found, the cost of the cure and the loss in production while the person is treatedd is an economic cost which should be included in the estimates of the economic impact.

TABLE E. 3

YEAR	REDUCED NO. OF AIDS INDUCED DEATHS DUE TO		ECONOMIC IMPACT (IN 1990 $)
	IE&C CAMPAIGN	BLOOD TRANSFUSION CAMPAIGN	TOTAL
1991			-1000000
1992			-1000000
1993			-1000000
1994			-1000000
1995			-1000000
1996			
1997			
1998			
1999	800	978	666159
2000	1200	1543	1051250
2001	1600	2099	1429840
2002	2000	2648	1803554
2003	2000	2791	1901210
2004	2000	2593	1766408
2005	2000	2445	1665306
2006	2000	2334	1589379
2007	2000	2250	1532609
2008	2000	2187	1489957
2009	2000	2140	1457967
2010	2000	2105	1433975
2011	2000	2079	1415981
2012	2000	2059	1402486
2013	2000	2044	1392364
2014	2000	2033	1384773
2015	2000	2025	1379080
2016	2000	2018	1374810
2017	2000	2014	1371607
2018	2000	2010	1369205
2019	2000	2007	1367404
2020	2000	2005	1366053

TOTAL BENEFITS MINUS TOTAL COST OF AIDS PROGRAM $26,611,489

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There are many issues not addressed in this analysis such as the potential impact on the macroeconomic structure and transmission of AIDS to children. This does not imply that these issues are unimportant, but rather that their impact cannot be realistically estimated. Moreover, there are several impacts which have not been analyzed. For example, blood testing will result in a significant reduction in transmission of other diseases with important health and economic benefits. These are important side benefits which would, if fully evaluated, further increase the internal rate of return of the project. Even without studying these additional impacts, this project has an internal rate of return of 15%, and a net present value of $2,600,000 (assuming a 10% cost of capital). Thus the project is very attractive from an economic viewpoint and should be undertaken.

ANNEX F

SOCIAL SOUNDNESS ANALYSIS

AIDS: Determinants of Risk in Ghana

"The AIDS epidemic in Sub-Saharan Africa may well constitute the greatest public health challenge of our time. Its containment is likely to rest ultimately upon social knowledge that is at present vestigial and upon sophisticated social research of a type towards which we have only begun to grasp. Such social research is likely to reveal a coherent society--indeed, an alternative civilization--very different in its workings, including its patterns of sexual behavior, than outsiders prescribing cures and even offering sympathy and support often realize."
(Caldwell et. al. 1989)

In order to design a program that will effectively combat the spread of AIDS the social system, particularly as it affects personal behavior, must be understood. This will enable the program to reach out to the groups at risk, understand what educational efforts are needed, and stem the spread of AIDS not only in high risk groups but in the population as a whole. A simple identification of high risk groups is not enough; there must be an understanding of what behavior causes this risk and what factors drive this behavior. This document endeavors to provide some of this information.

I. Population

The population profile is covered in the original project document, Annex F. The most important characteristic is that 57 percent of Ghanainas are below age 20. This presents an opportunity for intervention, since most of these will not have established personal patterns of sexual behavior, so educational efforts directd at adolescents to establish healthy behavior will need to be an important part of the project. It is also a danger in that the youthful population is a large risk pool as many youth experiment with their sexuality.

HIV/AIDS infection was initially brought into Ghana by people practicing high risk heterosexual behavior. Studies completed in 1987 found a 60 percent prevalence among ill prostitutes returning from Ivory Coast and a 15 percent prevalence among Ghanians with a history of stay in neighboring countries (Neequaye et. al. 1988: 11). As discussed in the technical analysis, there are significant gaps in the surveillance data which leave unknowns in the understanding of the demographic pattern of AIDS. For instance, although their is some indication of Ghanian prostitution migration from the north into Burkina Faso and sketchy reports of resulting AIDS, there is no hard evidence.

II. Socio-cultural context.

A. Sexual behavior patterns.

An understanding of specific sexual patterns and especially how they differ from the perceived behavior of Western society is essential designing an intervention combatting the spread of AIDS in Ghana. In Sub-Saharan Africa sexual patterns are based in different values and are vastly different than those in the West. Indeed, the Akan of Ghana have at least 24 names for various types of sexual relations. (Vallenga, cited in Caldwell et. al., 1989). The African--Western difference is especially evident when different concepts of virtue are examined. In Africa, primary value is placed on reproductive capacity rather than faithfulness (ibid). In line with this, puberty rites are often of greater importance than marriage in terms of initiation into sexual practice. Marriage patterns themselves are quite different given the presence of polygyny and high rates of divorce. These marital patterns, as well as factors such as a large age difference between spouses and the practice of sexual abstinence for prolonged periods after child birth lead to weak conjugal bonds (ibid). Caldwell summarizes the available literature on the African attitude towards sex with the characterization that it entails "little guilt, substantial permissiveness, and scant danger of punishments that would wreck lives or substantially change them." It is important to note that this model is far from static, indeed, the arrival of AIDS on the scene has and will inject guilt and danger of punishment into the preexisting concepts of appropriate sexual behavior.

Several studies of the sexual networks that Ghanaians participate in show that AIDS education may have already begun to take hold. One study found that there was a moderation in behavior in the last year, with many of the males citing AIDS as a factor in their decision to limit relations to their wives. (Anarfi and Awusabo-Asare, 1991). Regarding factors that may promote spread, Anarfi and Awusabo-Asare also found that people living in urban areas have more partners. (ibid). Behavior that enhance the spread of HIV/AIDS and other Sexually Transmitted Diseases has been found in research that reveals that 7 percent of urban and 6 percent of rural males report having had 20 or more lifetime partners and 11 percent of urban and 5 percent of rural men have had too many partners too remember. Females, however, were conspicuously absent from the research group.

Pre-marital relations.

Overall, the African attitude towards premarital relations is usually described as being relaxed. The role of modernization in effecting pre-marital relations is not clear. Some may argue that it relaxes standards, but as Caldwell, et al. point out "sexual

tolerance is not solely a recent phenomenon of the cities, but has ancient rural roots." (1989) What one can generally discern about premarital sex is that it is not discouraged. However, a modicum of discretion is encouraged. The general perception in Ghana appears to be that barriers, if any, against pre-marital sexual behavior is broached with the performance of the puberty rites (Anarfi and Awusabo-Asare: 1991). Other than this ritual, now often honored more in the breach than in observance, there appear to be few prohibitions.

The issue of pre-marital sex is quite serious in a context where HIV/AIDS is a factor. Early experimentation with sex can lead to multiple partners and high risk behavior, especially if the woman does not stay within her age group (a frequent occurrence given financial considerations in sexual relations). The theory and practice that Ghanaians offer regarding pre-marital sexual activity tend to contradict one another. One survey found that a high amount of men and women thought that a woman should be a virgin at marriage but only two thirds of men and a third of the women thought that it was necessary. In terms of actual practice 12 percent of rural and 7 percent of urban men said they were a virgin at marriage and 18 percent of urban and 30 percent of rural females said that they were a virgin at marriage (Anarfi and Awusabo-Asare: 16). Factors influencing the decision to remain a virgin included religion and tradition (both factors are more predominant among urban women) and fear of parents or pregnancy (the latter being much more predominant among rural women).

An examination of patterns of pre-marital sexual activity shows the age and reasons why young people become sexually active, and thus place themselves at risk of becoming infected with HIV/AIDS. Different studies report a wide range of ages of first sexual experience. One study of junior secondary school (JSS) children showed that some of them become sexually active at age nine in rural areas and ten in urban areas (Health Education Division, Ministry of Health (HED), undated). However, another study, focussing on the average age of first sexual experience among adolescents, found a mean age of 16 for males and 15 for females (Adomako, 1991: 4). Another study among a broader age group showed median age of first sexual relations at 19 for both urban and rural males and 18 for rural females and 17 for urban females (Anarfi and Awusabo-Asare: 1991)[1] This study also found that 7 to 8 percent of the women turn to premarital sex out of financial necessity. Another factor in encouraging premarital sex (one that presents an easy education target) is that there is some belief that sex is

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[1] It is important to note that this work uses "relations" as compared to Adomako's "experience" or the GDHS "union". The latter terms are not comparable. A "union" is a more or less stable relationship, as opposed to "experience" which can refer to a single episode of coition.

necessary at a certain age for health reasons. A small percentage of respondents (chiefly female) in a study of secondary school students showed this as a reason for having sex. (Adomako, 1991)[2]

The amount of pre-marital sexual activity also varies. One study of JSS students showed that while 36 percent were sexually active, 14 percent had had sex within one to two years before the study was conducted and 20 percent in the previous month (HED). Figures on pre-marital sex suffer from the fact that a sexual relationship accompanying a friendship that evolves into marriage is often not considered pre-marital sex. Nonetheless, the trend that can be observed is a much higher reported incidence of pre-marital sexual activity for males with the average for urban males at between 7 and 10 partners (Anarfi and Awusabo-Asare, 1991). In terms of first union (i.e. living with a partner or marriage) the respondents report that, on average, the age at first union for women tends to be around 18, with the urban areas slightly higher than the rural ones. (Ghana Statistical Service, 1989: 11-12). Thus we can conclude that there is about a three year period between first experience and the first union. Another factor which may indicate high premarital sexual activity among males is the fact that there is a consistently large age gap between husband and wife. Although there is currently no nationwide data available on husband's age at first marriage, the GDHS shows that first wives are on average 8 years younger than their husbands, while second wives average 16 years younger (ibid).

There is encouragement for educators and those aiming interventions at youth in that a fair number of youth consider themselves too young and/or regret their sexual experiences. One study of secondary school students found that 46 percent of males and 79 percent of females regretted entering into a sexual relationship (Adomako, 1991).

Tradition holds that while the female is limited to one man at a time, men are allowed infinite sexual freedom whether married or not (Anarfi and awusabo-Asare, 1991). There are three basic types of relationships in this ethno-classification: marriage, "friendship," and commercial sexual relations or prostitution. A better understanding of these will help clarify risk groups both in and out of marital union. Before continuing with this discussion it is important to clarify the nature of male-female compensatory/sexual relations in Ghana. Pellow explains "No matter where they meet, a woman is perceived by a man as primarily a sexual being. Any other status notwithstanding, that is how he relates to her. Knowing this, the Ghanaian woman extracts an exchange: sex and sociability in return for material recompense."

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[2] As Anarfi and Awusabo-Asare note this belief is also present among adult males who believe that if they go without sex for too long they will get sick.

(Pellow, 1977: 204). Thus, what is discussed here are what is classified as marriage and friendship. Explicitly commercial sexual relations are discussed below.[3]

It must be remembered that the "friendship" or mpena aware relationship is often a prelude to marriage. Many women have their first sexual relations with a "friend" and prospective husband. In terms of risk factors, the most prominent feature of the "friendship" is the high mobility of the women (Pellow: 205). Although friendships carry with them a steady stream of material recompense for the woman, this does not obligate her to faithfulness and indeed, if she is dissatisfied with the amount of compensation she may go looking elsewhere. These relationships are usually covert as the parents seek out a marriage for the woman, hence mother/daughter communication, especially about safe sex, may be circumvented.

Marital patterns

Marital patterns can lend insight into the relatively closed sexual relations in the society and to what extent these groups are at risk of becoming infected. Studies show that divorce and remarriage are relatively high in Ghana. One study found that 41 percent of respondents had married twice or more by age 40 and 77 percent by age 71 or older. The data show that this is more prevalent in the matrilineal ethnic groups than the patrilineal. Since some matrilineal groups still practice widow inheritance (which is not counted as a remarriage) the figure may be higher (Anarfi and Awusabo-Asare, 1991) These authors also note that unlike the Southern African situation, there is no 'ritual cleansing' or obligatory sexual relations with the deceased husband's brother for Ghanaian widows. This practice has been implicated as a particularly dangerous in terms of HIV/AIDS transmission in parts of East Africa.

Extra-marital relations

Extra marital sexual relations break the closed sexual bond of marriage and hence provide an avenue for AIDS to gain access to the mother and her children. Overall, adultery seems to be much more acceptable for men. Indeed, about two-thirds of the men in one study admitted to having extra-marital relations (Anarfi and

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[3] It is important to keep in mind Pellow's caveat: "The line between courting behavior and whoring behavior is thin." (209)

Awusabo-Asare, 1991)[4]. The reason most cited by men for their pursuit of extra-marital affairs is their need for sex in the period of post-partum abstinence. Women also engage in extramarital affairs to some extent although with greater discretion and are hence loath to divulge this fact, especially in surveys. Some evidence indicates that women in a polygynous union with an older husband may be more likely to engage in extramarital affairs for sexual satisfaction.

One concept associated with extra-marital affairs is the concept of the city wife - that a man working away from home will take a second "wife" in the city. According to general evidence this seems to be a middle class concept, although Caldwell (1989) argues that the practice extends beyond just the middle class, with evidence of it among the poor in several African countries. It is not clear to what extent that this type of arrangement is prevalent among lower class Ghanians.

Overall, there are many problems with gathering data on parallel relationships and little specific work has been done. Although these relationships present an urban-rural link for HIV spread, they tend to be stable (ibid). One argument used to explain this, made in the case of East Africa, argues that these parallel relationships were quite stable because of the fear of contracting disease from prostitutes. (Oddo cited in Caldwell, 1989).

Sexual practices

Different sexual practices have different implications for the transmission of HIV/AIDS and STDs. In the West, receptive anal intercourse is one of the most risky practices, since rectal tissue is easily torn and provides an avenue for the virus to enter. Very little information exists on Ghanaian behavior patterns during sexual intercourse. Evidence from elsewhere in Africa provides ample examples of potentially traumatic practices. In some places, "dry sex" is practiced, in which the woman's secretions are wiped away to increase friction during intercourse. Other researchers have found that the sexual act itself is may be quick and foreplay almost nonexistent (indeed, in some cases foreplay is considered witchcraft) (Caldwell, 1989). These practices, particularly in a situation where multiple acts over a short period, with many repetitions and the absence of foreplay may increase the friction, be more likely to traumatize tissue, and hence increase the likelihood that there will be an exchange of blood and thereby virus. Further information is required.

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[4] The DHS shows 25% of all males in a polygamous union. There may very well be some overlap here, especially as 46% of the men in the Anarfi and Awusabo-Asare study cited the reason for this relationship as a prelude to marriage.

B. Knowledge and attitudes.

All surveys to date show a high basic recognition of AIDS, a positive sign for education. Nonetheless, knowledge becomes more sketchy as modes of transmission, existence of a cure and other issues are probed. Furthermore, the data also indicates some hostility towards AIDS patients. This section provides information to help guide education campaigns both within the risk groups and without as well as a barometer of current attitudes towards AIDS and AIDS patients within the society.

It is important to stress that most of the knowledge surveys are confined to students and high risk groups. Thus, despite the fact that a nationwide study is being planned, there is no adequate gauge of how widespread knowledge and attitudes are about AIDS, particularly among adults. Nonetheless, this data provides for some vital discussion especially since the students represent a large risk group as well as potential sources of information for others.

Modes of information transmittance

Modes of information diffusion are critical for the effective education effort. Given no cohesive formal education program about HIV/AIDS thus far, it is important to gauge the channels of communication so that the project can strengthen them and counter any misinformation through them. In terms of formal modes of information transmittal, one study of students in the greater Accra region (Asamoah-Odei, et al, 1991) found an even distribution between television, radios and lectures. However, a study outside of Accra (Ametewee and Wyllie, 1990) found that television played a lesser role while radios as the predominant medium and newspapers fell in between. One study done in the Ashanti region found that the most prevalent means of communication about AIDS information for women was through interpersonal communication. For men the main source of information was the radio (Amofah, n.d.). This finding was also confirmed in Porter's work with youth (1990). These results must be tempered by the results of Ametewee and Wyllie who found that only a small number of respondents learned about AIDS from their friends. A study of prostitutes (Neequaye et. al., n.d.) found that a majority of bar based prostitutes found about AIDS from their friends (this channel has been effectively used for AIDS education with a network of peer educators). In contrast, the vast majority of the home based prostitutes found out about AIDS from the radio. Given the different social patterns of these two groups, however, the contrast is not surprising. Nonetheless, this serves as a good representation for the two main modes of AIDS communication.

Awareness of AIDS and its impact on behavior.

Recognition of AIDS provides the first step in combatting its spread. Although there is very little data and discussion of how this knowledge impacts on behavior, some insight is available into patterns that can be used to improve the effectiveness of education programs. Indeed, AIDS is viewed as a pressing education problem among the young as many request more education. One focus group study found that teenagers viewed AIDS as the most pressing health problem facing their age (Porter, 1990).

Overall recognition of sexual transmission as the main mode of transmission is high in the studies that have probed this. However, when one examines the awareness of other modes of transmission such as blood transfusions and needles, there are large variations in knowledge, even among the same group (e.g. students). In terms of how this knowledge changes or effects behavior, the results are mixed. One study that examined prostitutes over time showed a great increase in the use of condoms after education (Neequaye et. al., undated). Another study, focussing on the impact of an AIDS education drama found that the drama had altered behavior and that these changes remained a month later (Bosompra, 1991). A study among youth found mixed results as some claimed to be changing but others claimed that they were hopeless/helpless (Porter, 1990). In terms of the general population no studies of knowledge and behavior over time have been done.

Attitudes towards AIDS and AIDS patients

AIDS connection to sexual behavior and, in many cases, bestiality (Porter, 1990) has created a moral stigma attached to many AIDS patients. Indeed, surveys show that attitudes towards AIDS patients indicate some degree of hostility. In the two studies that worked with students, a significant portion of the sample favored sanctions against AIDS patients with isolation, death, firing from job and deportation being some of the leading sentiments. Ametewee and Wyllie take a closer look at those favoring sanctions and find that a disproportionate number of this sample belong to Pentecostal/Spiritist churches while a disproportionate number of Catholics and other Christians argue against sanctions.

One of the major problems in AIDS education so far has been a perceived lack of immediacy of the AIDS problem. This has been compounded in Ghana by the fact that, as of yet, infection has largely been confined to high risk groups and hence often to specific localities. Indeed, in their work with lorry drivers, ADRA came up with the observation that "even though over 80 percent of the drivers felt that one can be infected with AIDS by having sex with prostitutes, they did not think one is likely to catch

AIDS through having multiple sexual partners." (ADRA, 1990: 4). Among students in Accra, about a third of the students identified themselves at risk. However, in contrast to other information, about 97 percent of the students said they had taken some measure of prevention. (Asamoah-Odei, et. al., 1991)

Belief in a cure

In addition to being generated by a perception of lack of immediacy, a sense of invulnerability can also be engendered by belief in a cure. This belief presents substantial obstacles for effective education. Primarily, this is a problem of countering conflicting reports carried in the newspapers that herbalists have discovered a cure for AIDS (see discussion of traditional healers below). Indeed, a number of youth in one study (Porter: 12-13) stated that they had seen someone on television claiming to have a cure and because of this (and the way it was presented) there must be some validity to the claim. The belief in a cure seems to span many sections of the population. For example, 15% of a sample of prostitutes (Neequaye et. al., n.d.) said they believed there was a cure. However, this percentage decreased after an education campaign to 2 percent. In other populations, where there was no such measurement of knowledge over time, prevalence of this belief appears at a rate similar to that of the prostitute study before the education component of the project. A survey of lorry drivers shows that 18% of them believe that there is a cure (ADRA, 1990). Among students in Accra, surveys indicate that about a third of them believe that there is a cure and/or a vaccine. Work with the Winneba/Berekum students showed about a 13 percent belief in a cure with males overrepresented in this belief and females underrepresented. An overwhelming majority of these students believed that the cure was available through a traditional healer (Ametewee and Wyllie, 1990). This seems to be confirmed by Bosompra's findings of a large number of rumors about a herbalist cure for AIDS (1991). In further examining the issue of a belief in the cure, an important distinction is made by Ametewee and Wyllie when they queried respondents about treatment for AIDS. Here they found that although a lot of students equated cure with treatment a fair number, including those who advocated traditional healers, realized that treatment was to ease the situation, not cure the disease.

Another factor hindering effective education as well as acceptance of AIDS patients into the society (and this is especially crucial given the role of the family as the main support unit for the patients) for prevention is misperception and superstition as to the cause of AIDS. Anecdotal information tends to indicate that the belief in AIDS as caused by witchcraft is as prevalent in the young as in other groups. A study of students in the Accra area found that 1.1 percent attributed AIDS to witchcraft (Asamoah-Odei, et. al., 1991). More significant is the religious misinformation

as 4.6% of students in the same study indicated that AIDS was punishment from God.

Prevention - attitudes towards abstinence and condoms.

Current social patterns and attitudes towards different means of prevention of AIDS are important in determining the viability of advocating different measures and also to changing perceptions if need be. When examining students' knowledge towards AIDS one conclusion is that women consistently advocate use of condoms more than men. Condom use as a whole was advocated by 26 percent in one study (ibid) and 31 percent in another (Ametewee and Wyllie, 1990). Female advocacy of a condom for protection from AIDS in a relationship however, presents a problem as it is often construed as a lack of trust in the partner. Although the introduction of a condom for birth control tends to be more acceptable to the male, this reason indicates a lack of seriousness to the female (Porter: 18). In terms of avoidance of sex altogether, one study of students found 75 percent avoiding casual sex (Ametewee and Wyllie: 15) while another showed 33 percent practicing abstinence (Asamoah-Odei, et. al., 1991)[5]

The knowledge of health workers.

Since health workers have a pivotal role, not only as a high risk group but as counsellors, their knowledge and attitudes are especially germane in order to ensure the construction of a sound program infrastructure. A study done with nurses in Kumasi (Adu-Sarkodie et al, n.d.) provides interesting data. One of the primary problems is that fear of AIDS is interfering with work for 75 percent of the nurses. In terms of knowledge of modes of transmissions the nurses show that they themselves are lower risk since they can recognize the major vehicles of transmission. However they are less accurate as counsellor as many cited incorrect modes of transmission such as second hand clothes.

C. Modes of transmission - risk groups and behavior.

In order to design effective education and intervention programs certain groups must be singled out because their behavior places them at a higher risk than others. In Ghana some of the major factors that identify such groups tend to be economic necessity (which engenders prostitution), economic prosperity, separation from one's family, and travel/high mobility. Examining these

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[5] Note that the Asamoah-Odei, et. al. study backs up Ametewee and Wyllie's conclusion concerning casual sex if the different categories that fit this classification are added up.

factors in the context of the groups in which they engender risk allows the targeting of the behavior itself.

The military, police and prison guards present a high risk group given their separation from their family and mobility. This is especially true for the military given Ghana's participation in several international forces such as ECOMOG and UNIFIL and the separation of the soldiers from their families.

Prostitutes or commercial sex workers present what is perhaps the highest and already most infected risk group in Ghana. Basically, there are two discernable levels of prostitution in the major metropolitan areas - home based (low class) and bar based (high class). Identifying these groups is feasible within the urban centers but beyond them becomes much more difficult.

Before further examining the two main levels of prostitution one final point must be made as regards recompensation in sexual relationships in Ghana. Economic necessity cannot be overemphasized as a factor encouraging promiscuity. Several studies have reenforced the conventional wisdom that would could be characterized as low-grade prostitution takes place quite often out of economic necessity. (e.g., Caldwell, 1989). For example, a 1980s study of schoolgirls found that 93 percent in a single village maintained boyfriends who assisted in their school fees. These studies indicate a promiscuity not captured in available studies on prostitution.

One type of relatively clearly defined prostitute is the home based prostitute. These prostitutes' patronage is characterized by a high number of customers and hence short, frequent acts. One study of these women found that they averaged 16 customers per week (Neequaye, et. al 1987) This group tends to be older, with one study (Neequaye et. al., n.d.) finding that almost half of its sample among these women was over 50 years old. These women tend to longer term prostitution, one study finding that over half had been in the business over five years. This groups also tends to have a large number of widowed and previously married women (ibid; Caldwell, 1989). The prevalence of widows among the prostitutes is marked by the fact that one organization of prostitutes in Accra has chartered a group called the Ghana Widows Association. Among the home based women, the financial imperative leading to prostitution is more important since many of them are widowed, and tend to be less educated and have fewer economic options to support themselves and their children. Given the economic imperative it is quite conceivable that even should they contract HIV, they would not give up prostitution (Neequaye et al, 1987).

Another type of prostitute is the bar and club prostitutes. These also tend to found in major urban centers such as Accra, Tema and Kumasi. Unlike the home based prostitutes, these women charge more and tend to spend the whole night with their customers. The

majority of them also enter prostitution for financial reasons, with supporting a family the most cited reason under this heading (ibid). One notable attribute of this group is their high mobility. One study (Neequaye et. al., n.d.) that attempted to keep track of a group of Accra prostitutes over six months only managed to reinterview about 65% of them. A majority of the bar women seem to refuse more than two customers per week usually for cleanliness or behavior. This indicates the willingness and ability to refuse customers, but has yet to be fully translated to apply to customers who refuse to wear a condom, although 60% of the women responded by refusing a customer who refused a condom (ibid).

In terms of prostitutes' use of condom, there has been an increase in recent years. One early study (Neequaye et al., 1987) found one in 116 prostitutes regularly using a condom. After an educational campaign, usage rates increased drastically with around 69 percent of prostitutes always using condoms with their customers. Unfortunately, usage rates with boyfriends or husbands still remains low, around 20 percent (Neequaye et. al., n.d.)

Studies in Accra indicate that both types of prostitutes have a number of features in common. Both seem to have little idea how much longer they will remain in prostitution although many of them express a wish to become petty traders, indicating people who will, economic conditions permitting, change their professions over time. A further observation is that both groups seem to have a steady flow of repeat customers (Neequaye et. al., n.d.).

As Caldwell rightly points out there is a paucity of data and theory on the prostitute's customers and their number of partners. The chief data in Ghana of this nature comes from a study by Neequaye and Neequaye (undated) on the customers of prostitutes in Accra. This study targeted the high class, bar based prostitutes. The main reason of the customers for seeking out the prostitutes was for pleasure (although 27% said they were looking for women to marry). Most of the customers were Ghanian (49% - revealing yet another risk group) and if Africans increased the percentage to 89. The sample indicated a preponderance of mobile businessmen, mostly under age 40. Again, it is important to note that this is a study of the situation in Accra, which arguably has a different prostitute situation than the rest of Ghana, especially in that the prostitute population the Neequaye's studied was limited to all night, and hence, upper tier, prostitutes. The study also found that 66 percent of the customers would not use condoms and didn't regard themselves at risk from AIDS.

Truck drivers present a high risk group due to the amount of time they spend away from their families, the number of partners they have, and the fact that they often cross international borders. The main work in this area in Ghana is an ongoing study and intervention project by the Adventist Development and Relief Agency (ADRA, 1990). The drivers in the ADRA study range from 20-50 years

of age and although around 80 percent recognized AIDS as a threat, they didn't see it as a personal one. While a high number could identify casual sex with prostitutes as a high risk behavior, very few acknowledged that having multiple partners was also a risky behavior. More than 50% of the drivers had 2-4 partners in the previous six months. Their partners are often market women or girlfriends who travel with them for some leg of their journey. Little is know about these partners who also present a serious risk group.

Other groups also show indication of high risk behavior. Studies in southern and central Africa have shown that higher socio-economic groups, with their frequency of travel and social interaction often have a higher HIV seroprevalence than other groups. University students, who often overlap with this category, also seem to be at risk as there is sexual activity within an enclave community, again strengthening the feeling of invulnerability, but an absence of protection. One final group that has shown a high prevalence in an ongoing study are the miners surrounding the gold field. Despite the presence of the families, there is a relatively high prevalence of prostitution and seropositivity in this population which anecdotal sources attribute to the presence of wealth in the area.

High Risk Behaviors

Several behaviors practiced by the population at large present some degree of risk if not performed under sterile conditions. Anecdotal information indicates the occurrence of mass circumcisions with perhaps six (male) circumcised at the same time. As the infection spreads from mothers to their children this may become an increasingly risky behavior. Another risk behavior is the tribal and witchcraft scarring. Scars are made either as a tribal mark or as some sort of talisman for protection, with the chance of a number of these occurring within close proximity. Also at risk from lack of education and, perhaps sterile materials are traditional birth attendants. One other risk behavior worth noting is rather the absence of any knowledge on the occurrence of homosexual intercourse in Ghana. One point suggested by Johnson and Pond (1988) is that even when male homosexuality is practiced, it is usually concealed by bisexuality due to familial pressures.

One cultural factor also prevents some degree of risk. This is a fatalistic world view as embodied in the saying "all die be die, so do and die," (ADRA, 1990) which basically boils down to the view that death is inevitable, so why the fuss? There is little indication of how prevalent this view is among Ghanaians.

III. Institutions

A variety of institutions will be needed to effectively combat AIDS. No group will directly oppose AIDS education, but a number of them practice ideologies that may hinder its effectiveness. This section endeavors to take a brief look at a number of institutions and their roles.

Chiefs

Traditional chiefs face the same dual edged problem as other politicians. Given the stigma attached to AIDS, admitting that it is a problem in their district indicates a moral shortfall that reflects on them. On the other hand, many of them are interested in the well being and health of their population and thus have a strong interest in improving AIDS awareness, counselling and protection. A further complication is added to the chief role in that he is often viewed as a symbol of sexual potency. Nonetheless, there is growing momentum for them to be involved in promoting safer sexual behaviors. (Porter: 1990)

Central government

The ministries of health, youth and sports, information and education all can play major roles in an AIDS education program. Despite some perceptions that education efforts would encounter objections at the grass roots to AIDS education, as of now there do not seem to be substantial objections to AIDS education on the part of the parents or the teachers (Porter 1990). The main barrier, as cited by teachers, seems to be lack of curricula, materials and training.

Church

As the strongest modern institution in the country, the church is uniquely placed to play a major role in any AIDS testing and/or education campaign. Indeed on the local level in some cases it is providing badly needed education, testing, and counselling. Two major interdenominational variations are hinted at in Ametewee and Wyllie's work. They found that, among young advocates of condoms, Protestants were overrepresented given their percentage of the sample, while Roman Catholics were underrepresented (1990). In terms of advocating sanctions against AIDS patients the study shows a great underrepresentation of Roman Catholics and overrepresentation of Pentecostal/Spiritists given their representation in the sample. Thus, we can see that the Catholic church, while sticking to its stance against premarital sex has managed to spread a greater feeling of compassion towards AIDS

patients, while the Pentecostal/Spiritist sect seem to be painting a dangerous view of AIDS patients.

Traditional healers

Up to now, traditional healers have presented an obstacle to effective AIDS prevention education. Their claims to a cure, featured prominently in the Ghanian papers (e.g. Ghanian Times, October 15, 1990: "Drobo Herbal Centre Develops Anti-AIDS Vaccine, page 1) and tacit government support (the sub heading on the above example states "Govt Assistance Assured to Promote the Work,") while failing to offer any conclusive results lead to misconceptions. Many of the knowledge surveys have found a belief in a cure by their population be it lorry drivers, prostitutes, or students. Ametewee and Wyllie and Wyllie analyze their student population to take a closer look at those believing in a cure and find the knowledge to be somewhat localized in that 1) one school showed a disproportionate amount of cure believers and 2) a high number of believers come from Brong-Ahafo region, home to one of the more prominent AIDS curing herbalists. Furthermore, a significant number of students (14 percent) in the Ametewee and Wyllie study said they did not know if AIDS was curable. These conclusions, as well as the result of education in dispelling this notion in Neequaye's work with prostitutes, can lend the tentative conclusion that this belief is somewhat superficial, combatable by education.

Family

The family provides a prime institution for AIDS education. Porter's work indicated that the taboo in the family regarding teaching the children about sex was breaking down in the face of AIDS (Porter 19). Adomako found that the person most confided in was the mother. Thus, we can conclude that this project is indeed aptly placed as an amendment to the Family Planning project.

IV. Communication Strategies.

For the most part this is covered in the technical analysis. As noted in the preceding paragraph, there is a strong potential should this be incorporated into the Family Planning project as the channels utilized by this seem to reach large segments of the population most vulnerable to AIDS. This combined with the strengthening of ongoing activities with prostitutes and the military provide some channels.

V. Beneficiaries - Individuals

Women and children.

Although the male to female ratio has decreased over time, women still remain the main victims of AIDS in Ghana. These women and the children they have (who are one of the groups most at risk) will benefit immeasurably from the increased education, testing and counselling that could save their lives.

Medical Personnel

Medical personnel will benefit in many ways. Improved testing facilities and laboratories will encourage some of the doctors who now cite this as a reason to leave, to stay, creating a spinoff benefit for the population at large. The improved facilities themselves will provide a safer, more effective environment for technicians, also stemming brain drain in this area. All medical personnel benefiting from education will decrease their risk factors. This will be especially true at the grass roots levels as these personnel institute safety mechanisms to protect themselves and their patients.

High risk groups

Groups at risk will receive more control over their lives through testing and education and subsequently will live longer and contribute more to society. Groups unwittingly at risk such as donated blood recipients will be protected from death to a much greater extent as much blood currently goes unscreened.

VI. Women in Development

This project will have three major impacts on Women in Development:

1. Training will raise the status of women health professionals. Their education will enable them to operate more effectively and with greater cognizance of the risks they face when dealing with AIDS patients. Furthermore, as their knowledge increases, they will become more credible sources of information, raising their prestige in the community.

2. This project, through encouraging the use of condoms as protection against AIDS will increase the sales of condoms. In tandem with the availability of condoms on a greater scale, this will lead to increased profits and, consequently a higher socio-economic status, for the market women selling the condoms.

3. As women suffer disproportionately from AIDS in Ghana (the ratio was about three female cases to one male case at the end of 1990) stemming the spread of AIDS will bring them a disproportionate benefit.

VI. Spread Effects

As with the Family Planning project, this will be a nationwide program. One additional effect that this project will have will be some additional knowledge, awareness, and lay the basic infrastructure to combat other sexually transmitted diseases.

VII. Conclusion

The factors responsible for the spread of AIDS in Ghana are vastly different from the ones in the United States. Sexual behavior and migratory patterns follow trends that place different some different sectors of the population at risk. A different value system as regards sexual relations provides for a different pattern of spread.

Initial work has shown a high recognition of AIDS and a desire for more education. Many misperceptions exist and an education campaign would be well placed. Furthermore, health professionals lack the facilities that enable them to perform adequate jobs, especially in blood transfusions, and hence the morale to remain in their jobs.

Thus, given the opportunities presented, the channels that are receptive, an obvious gap that needs to be filled, and the crying need for resources, this project is most socially desirable, and likely to reach its objectives.

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ANNEX G

IMPLEMENTATION SCHEDULE

The following Implementation Schedule for the AIDS component is compatible with that originally presented in Annex G of the Family Planning and Health Project Paper.

A few of the activities are identical to those in the original paper, that is the same action will cover the AIDS component as well as the Family Planning and Health component. Where that is the case the action is marked with an asterisk *.

IMPLEMENTATION SCHEDULE FOR AIDS PROJECT ACTIVITIES

Event	Responsible Party	Time Frame
Year 1		
* 1. Project authorized and Grant Agreement signed	USAID/GOG	0 month
* 2. Request for Proposals issued	USAID	+ 1
* 3. Review of contractor proposals and selection	USAID/GOG	+3-4
* 4. First quarterly report due	GOG	+3
* 5. Quarterly report due	GOG	+6
* 6. Contractor team in country, set up and initiates project activities, procures commodities	Contractor	+7
* 7. Contractor annual workplan developed and approved	Contractor/ Project Tech. committee	+7-10
* 8. Quarterly report due	Contractor	+9
IE&C-Specific Component		
8A. Baseline survey performed	Contractor/MOH	+8-10
9. Procurement of computers and audio-visual equipment initiated	Contractor	+8

10. Training Plan for NACP and HED staffs developed	Contractor	+9

Event	Responsible Party	Time Frame
11. Needs assessment for workshops and seminars carried out	Contractor/MOH	+9-10
12. Project Monitoring System developed and functioning	Contractor/Proj. tech. committee	+10
13. Materials developed for regional campaigns (2)	Contractor/MOH	+10-12
14. Sort-term tech. assis. needs determined	Contractor/MOH	+11
15. Annual project review	Project tech. committee	+12
16. Observation tour for government policy makers	USAID	+12
Year 2		
17. Workshops held for district health education staffs	MOH	+12-14
18. Workshops held for media personnel	MOH	+12-13
19. Identify 2 health education officers for Ibadan training	MOH/USAID	+13
20. Regional campaigns implemented (2)	MOH	+13-15
*21. Quarterly report due	Contractor	+15
22. Outcome evaluations performed (2)	MOH	+14-16
23. Materials developed for regional campaigns (2)	Contractor/MOH	+15-17
*24. Quarterly report due	Contractor	+18
*25. Second annual work plan	Contractor/proj. tech. committee	+18

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26. Workshops held for district Health education staffs	MOH	+16-18

Event	Responsible Party	Time Frame
27. Regional campaigns implemented (2)	MOH	+17-19
28. Outcome evaluations performed (2)	MOH	+18-20
29. Materials developed for national IE & C campaign	Contractor/MOH	+19-21
*30. Quarterly report due	Contractor	+21
31. National IE&C campaign implemented	MOH	+21-24
Year 3		
32. Mid-term external evaluation	USAID/GOG	+24
33. National campaign evaluated	Contractor/MOH	+25-27
34. Materials developed for regional campaigns (2)	Contractor/MOH	+25-27
35. Workshops held for district health education staffs	MOH	+27-29
36. Identify 2 health education officers for Ibadan training	MOH/USAID	+27
37. Workshops held for media personnel	MOH	+27-28
38. Workshops held for NGOs	MOH	+27-28
*39. Quarterly report due	Contractor	+27
40. Regional campaigns implemented (2)	MOH	+28-30
41. Outcome evaluations performed (2)	MOH	+29-31
*42. Quarterly report due	Contractor	+30

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Event	Responsible Party	Time Frame
*43. Third annual workplan	Contractor/proj. tech. committee	+30
44. Materials developed for regional campaigns (2)	MOH	+30-32
45. Workshops held for district health officers	MOH	+31-33
46. Regional campaigns implemented (2)	MOH	+32-34
47. Materials developed for national IE&C campaign	Contractor/MOH	+32-34
48. Outcome evaluations performed	MOH	+33-35
*49. Quarterly report due	Contractor	+33
50. National IE&C campaign implemented	MOH	+33-36
51. National clearing house development initiated	Contractor/MOH	+36
52. Annual project review	Proj. tech. committee	+36
Year 4		
53. National campaign evaluated	Contractor/MOH	+38-40
54. Materials developed for four regional campaigns; workshops held for district health education officers, campaigns implemented, outcome evaluations carried out	MOH	+36-44
55. Quarterly reports	Contractor	+39;42;45
56. Materials developed for national IE&C campaign, campaign implemented, evaluated	MOH	+42-48
57. Final external evaluation	USAID/GOG	+42
58. National clearing house established	Contractor/MOH	+45

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59. Final report	Contractor	+48

Event	Responsible Party	Time Frame
Year 1		
Laboratory Support/Health Information Systems-Specific (Epidemiologic/Laboratory Information Surveillance Systems(ELISS)		
60. A&E firm for laboratory renovations	MOH	+1
61. Preparation of bid documents for renovations	MOH	+4
62. Invitations for bids	MOH	+6
63. Procurement of vehicles and equipment initiated	Contractor/USAID	+7
64. Review of bids, selection and contracting for renovations	MOH	+8
65. Procurement of laboratory supplies initiated	Contractor/USAID	+8
66. Quarterly report due	Contractor/MOH	+9
67. Training plan for laboratory staff developed	Contractor	+9-10
68. Training plan for information staff developed	Contractor/USAID	+9-10
69. Project monitoring system developed and functioning	Contractor/project tech. committee	+10
70. Short-term technical assistance needs for laboratory and information systems determined	Contractor/USAID	+10-11
71. Laboratory renovations completed	MOH	+12
72. Annual project review	Project tech. committee	+12
72A. Population based survey performed	MOH/Short-term tech. assistance	+12

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Event	Responsible Party	Time Frame
Year 2		
73. Technical assistance and on-the-job training for laboratory staffs	Contractor	+13-24
74. Applied research grant awarded	USAID	+13
75. Data collection/analysis technical assistance and training for information staffs	MOH/USAID	+13-24
76. Sentinel surveillance initiated (with short-term technical assistance)	MOH	+14
77. Development of laboratory quality control guidelines initiated	Contractor	+14
78. Operations research initiated	Contractor/MOH	+14
79. Quarterly reports due	Contractor/MOH	+15
80. Sentinel surveillance continues	MOH	+15-24
81. Development of laboratory quality control guidelines continues	Contractor	+15-24
82. Laboratory staff training in quality control	Contractor	+15-24
83. Second annual work plan	Contractor/MOH	+18
84. Quarterly reports due	Contractor/MOH	+18
85. Participants identified for short courses (laboratory)	Contractor/MOH	+20
86. Participants identified for short courses (information)	MOH/USAID	+20
87. Quarterly reports due	Contractor/MOH	+21
88. Mid-term ext. evaluation	USAID/GOG	+24

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Item	Responsible Party	Time Frame
Year 3		
89. Training/technical assistance continues in laboratory quality control	Contractor	+25-36
90. Sentinel surveillance continues	MOH	+25-36
91. Quarterly reports due	Contractor/MOH	+27
92. Participants identified for short courses (laboratory)	Contractor/MOH	+30
93. Participants identified for short courses (information)	MOH/USAID	+30
94. Third annual work plan	Contractor/MOH	+30
95. Quarterly reports due	Contractor/MOH	+30
96. Applied research grant awarded	USAID	+30
97. Quarterly reports due	Contractor/MOH	+33
98. Annual project review	Project tech. committee	+36
Year 4		
99. All activities continue - training of laboratory staff in quality control; technical assistance: sentinel surveillance	Contractor/MOH	+36-45
100. Quarterly reports due	Contractor/MOH	+39,42,45
101. Population based survey carried out	MOH	+42-45
102. Final evaluation	USAID/GOG	+42
103. Final reports	Contractor/MOH	

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ANNEX H

ENGINEERING ANALYSIS

1. Project Description

1.1 Scope

The engineering aspect of the project deals exclusively with the assessment of the medical laboratory testing infrastructure and the rehabilitation required to strengthen the general medical diagnostic and HIV testing capabilities in Ghana.

1.2 Location

A zonal focus has become necessary to provide balanced national coverage of testing facilities. The southern, central and northern zones of the country can become the bases where medical laboratory testing efforts are to be strengthened. The project has identified several critical testing facilities which are to be physically rehabilitated and institutionally strengthened under this project. They are listed as follows:

a. Public Health Reference Laboratory at Korle Bu for the southern zone.

b. Institution of Regional Reference Laboratory in Kumasi for the central zone.

c. Institution of Regional Reference Laboratory in Tamale for the northern zone.

d. Laboratory and Blood Bank in Effia Nkwanta Hospital of Sekondi in the Western Region.

1.3 Needs for rehabilitation of physical infrastructure

The degradation of the country's economy since the 1970's has left most of the Ministry of Health laboratories incapable of sustaining basic maintenance activities. The cumulative effect of neglect over the years has resulted in the deterioration of most installations to such an extent that rehabilitation is required.

The role of Public Health and Reference Laboratory in Korle Bu, as an effective national reference laboratory, should be strengthened. It should also develop the capability and begin HIV confirmatory testing. These additional activities require an expansion of existing space and the development of an acceptable

laboratory work environment. The rehabilitation of the existing laboratory is critical for the development of the testing role.

In Kumasi, the Ministry of Health requires a reference laboratory as well as an HIV confirmatory testing facility to meet increasing regional demand. Rehabilitation of an existing Medical Field Unit or other facility is required before the institution of the testing role in Kumasi for the central zone of the country.

Parts of the large laboratory installation in Tamale will be turned into a regional reference laboratory in addition to developing a confirmatory testing role of HIV. The current debilitated facilities in the Tamale laboratory will be rehabilitated before the testing capability can be installed.

Management of the laboratory facilities in Effia Nkwanta is currently difficult because of problems of insufficient space and deteriorated facilities. Rehabilitation of the laboratory and the blood bank will increase the quality of HIV testing in the region.

2. Description of Existing Facilities

With the currently increasing prevalence of HIV infection in the country, there is an increasing demand on laboratories to produce quick and reliable results. All existing laboratories in the country are being called upon to detect HIV for a variety of purposes. While most districts and clinics are provided with simple/rapid test equipment, the regional laboratories and the reference laboratories in Accra are called upon to screen larger numbers of specimens. The Noguchi Memorial Research Laboratory has been playing the major role as confirmatory testing laboratory for the entire country. The condition of several selected medical testing laboratories are as follows:

2.1 37 Military Hospital HIV Laboratory (2.5m X 6.0m)

This is an office in the blood donation block of the hospital complex which has been transformed for HIV testing only. The walls have oil paint and the floors are covered with plastic tiles. The laboratory bench consists of one long wooden table along the wall with a formica cover. The room is provided with a window and air conditioning but openings are not adequately air-tight and the false ceiling is too high for air conditioning economy. Three phased wiring is provided to support equipment which is installed. Electric power backup is available. Water supply is regular and a sink is provided.

Normal testing is performed by a technician with periodic suppo
from supervisors.

2.2 The Public Health and Reference Laboratory at Korle Bu

The reference laboratory is housed in an old (built in 1928) isolated building within the hospital complex. The building is about 30m by 10m including a corridor of 2.5m surrounding the building. Despite its age, the building appears structurally sound.

The laboratory has the following room facilities:

i) **HIV Testing Room (3.0m X 5.5m)**

It has long wooden work benches with a formica top. The floors are covered with plastic tiles which are peeling off in some parts. Open shelves on the wall serve as chemical storage areas. The room is air conditioned but air tightness of openings is poor with a high false ceiling which is not economical with respect to air conditioning.

ii) **Media Room (5.0m X 5.5m)**

The room has wooden benches along the wall and a central table. The floor is covered with plastic tiles which are deteriorating. Open shelves provide storage for chemicals. Air conditioning facility is provided but no equipment has been available after retiring the previous one. A washing sink is provided. The room is untidy with stains on benches, walls and sinks.

iii) **Food Microbiology Room (3.0m X 4.0m)**

The room has a wooden bench with a small sink. No air conditioning facility is provided.

iv) **General and Training Room (4.0m X 4.0m)**

The room has a formica top on wooden benches which has many stains. The floor is covered with plastic tiles which are peeling off. No air conditioning facility is available. A small sink is installed.

v) **Secretary Office and Incubator Room (4.0m X 5.0m)**

vi) **Entero Bacteriology & Serology (5.0m X 7.0m)**

It has a plastic tiled floor and stained wooden benches. A small sink and hand washbasin is available.

vii) **Principal Technologist's Office & Microscopes (3.0m X 3.0m)**

The offices are surrounded by a corridor of 1.7m. The corridor is partitioned in various ways for various purposes but mostly as storage for broken down equipment and appliances. The external walls are dotted with honeycomb portions which have contributed to ingress of dust, adding to the general untidiness of the laboratory.

2.3 Trinity Catholic Hospital, Agomanya

HIV laboratory (4.0m X 4.0m). Laboratory was not available for inspection but indications are that it is properly installed and well maintained.

2.4 Koforidua Regional Hospital Laboratory

The hospital was constructed in the late 1960's. It has five room facilities for laboratory use. Currently, three of them are functioning as:

i. Blood Transfusion Laboratory
ii. Hematology Laboratory
iii. Microbiology Laboratory

i) **Blood Transfusion Laboratory (7.0m X 4.0m)**

It has a wooden bench with formica top along two sides of the wall. The walls are painted in ordinary emulsion paint and are very stained. there is a terrazzo floor. No bench shelf storage facility is provided. Broken down telephone and deteriorated plumbing and light fixtures lead to poor utility availability.

ii) **Hematology Laboratory (8.0m X 8.0m)**

It has a central bench with a sink and wall benches on all sides of the wall which includes another sink. The benches are in wood with formica tops which have started peeling off. The roof is made

of concrete and the floor has terrazzo a finish. The walls are painted in emulsion paint and are very stained. The window openings on one side, which is exposed to the weather, have some of the sill of the framework rotten. Some louver blades are broken leading to easy access of rain, insects and reptiles into the laboratory. Electricity and plumbing fixtures have deteriorated and the telephone has broken down. No bench shelf storage space is available.

iii) **Microbiology Laboratory (8.0m X 8.0m)**

Description is same as for Hematology laboratory.

The other two laboratory rooms are presently being used for other purposes.

2.5 <u>Okomfo Anokye Teaching Hospital Laboratories</u>

i) **Microbiology Laboratory (7.0m X 7.0m)**

This has recently been renovated. The p.v.c. floor tiles have been replaced with terrazzo floor finish. Wooden benches with white formica tops are installed. The room has wide side openings and a fan for ventilation. Very little storage space under the bench or above the bench shelves is provided.

ii) **Hematology Laboratory (7.0m X 7.0m) X 2**

This also has been renovated recently as the Microbiology Laboratory and the other is in line for renovation.

iii) **Biochemistry Laboratory (7.0m X 7.0m)**

Renovation work is going on to bring it up to similar standards as the Microbiology Laboratory.

iv) **Blood Bank Room**

Bleeding room (3.5m X 3.0m) has three beds with a waiting room (3.0m X 4.0m).

v) **Serology Laboratory (3.5m X 7.0m)**

This is due for renovation to the level of the microbiology laboratory.

vi) **HIV Screening Laboratory (7.0m X 3.5m)**

This was previously used as consulting rooms. The floors are in worn-out p.v.c. tiles. Testing is done on tables with plastic cloth coverings. No proper storage facility is available.

2.6 Ministry of Health Laboratories

2.6.1 Malaria Unit Laboratory (4.0m X 6.0m) X 2

The room has formica top benches and a sink. No shelves for storage are available. The floor is of p.v.c. tiles which have worn-out considerably.

The adjoining room to the laboratory is used as an office for the unit. The partitioning between the two rooms is made with plywood.

2.6.2 Medical Field Unit

The unit is housed in a separate building out in another part of town. The building has three parts, namely: Laboratory which serves out-patients, a cold storage area for vaccines and lodging.

i) **Laboratory (4.0m X 3.0m)**

Tables serve as benches and two sinks are available. The floor is in concrete with no tiles. The walls have emulsion paint which is very stained with dirt. No proper storage shelves are available.

ii) **Storage Room for Vaccines (5.0m X 6.0m)**

The room has a concrete floor with walls in emulsion paint. Cooling of the room is done by two installed air conditioners. One side of wall-ceiling junction is defective with openings which allow considerable escape of cool air. Backup generator is available for continuous power.

2.7 Offinso St. Patrick Hospital Laboratory

Laboratory Room

The room is about 3.5m X 6.0m with a concrete floor. Working benches are oil-painted except one of formica topping. A sink is installed. Not much storage shelving is installed except for a small open shelf. The room is kept quite clean.

2.8 Bekwai District Hospital Laboratory

Laboratory Room (6.0m X 3.5m)

The working bench consists of a long table covered with a rubber pad on the top. The floor is covered with p.v.c. tiles which are wearing off. Three sinks are installed but are in very poor condition. A three meter square room is serving as a blood storage facility.

The laboratory is in a very poor state requiring renovation; but the hospital authorities do not foresee it being renovated in the near future.

2.9 Obuasi Mines Hospital (AGC) Laboratories

i) **Virology Laboratory (HIV)**

The 4.0m X 3.0m room has wooden benches with formica covered tops. Storage facilities are available in shelves below the benches. The walls and floor are tiled with ceramic tiles. Plumbing is adequately installed with a sink. The room is air-conditioned with a window size air conditioner.

ii) **Bacteriology Laboratory (3.0m X 7.0m)**

The installation is similar to the Virology Laboratory.

iii) **Hematology Laboratory (3.0m X 7.0m)**

The installation is similar to the Virology Laboratory.

iv) **Sterilization Room (3.5m X 4.0m)**

The installation is similar to the Virology Laboratory.

v) **Blood Bank**

This is installed in a 7.0m X 3.0m room with three beds for bleeding. The floor is tiled and the walls are in oil paint.

2.10 Obuasi Health Center

No laboratory facilities are in place but plans for installing one for simple tests are to implemented in six weeks . Rapid HIV testing could be undertaken if equipment is provided.

2.11 **Cape Coast Central Hospital Laboratories**

i) **Serology Laboratory (HIV (5.0m X 5.0m)**

This has been recently renovated. The floor is in terrazzo finish and the walls are in oil paint. The plumbing system has two sinks. The working benches are in wood with formica tops. Shelves are installed below the benches for storage. The room is air conditioned.

ii) **Chemical Pathology Laboratory (5.5m X 5.0m)**

The room is similar to the Serology Laboratory.

iii) **Reception**

This has two rooms for samples (5.0m X 5.0m) and preparation (5.0m X 5.0m). The installations are similar to the Serology Laboratory.

iv) **Hematology Laboratory (5.0m X 7.0m)**

The physical installation is similar to the Serology Laboratory.

v)_ **Microbiology Laboratory**

Blood Bank: (5.0m X 5.0m)
Installation is similar to the Serology Laboratory.

Bleeding Room: (5.0m X 5.0m)
Installation is similar to the Serology Laboratory.

2.12 **Effia Nkwanta Hospital**

i) **Serology Laboratory (HIV)**

This is housed in a 3.5m by 3.5m room. Low wall shelves serve as working benches. Some of the wall shelves are used for chemical storage. The floor is concrete finish with red floor paint which has substantially worn off. An isolated aluminum sink is installed. The wall is painted with emulsion paint. A window-sized air conditioner and a fan are provided. No proper storage facility is available.

ii) **Biochemistry Laboratory (3.5m X 7.0m)**

Two rooms of the same size are in service. The working benches are in wood covered with formica. The floors are tiled and are in good shape.

Plumbing system has deteriorated with the two sinks in each room in poor state. The walls have emulsion paint. There are no proper bench storage facilities (above or below).

iii) **Hematology Laboratory (3.5m X 7.0m)**

The physical conditions of this laboratory is similar to that of the Biochemistry Laboratory.

iv) **Routine Laboratory (6.0m X 10.0m)**

This room serves also as the reception room for patients. The physical installation is similar to that of the Biochemistry Laboratory.

v) **Microbiology Laboratory (4.0 X 5.0m)**

The installation is similar to the Biochemistry Laboratory.

vi) **Autoclave Room (3.0m X 5.0m)**

The room has no bench installations. The floors are tiled and the walls are painted in emulsion paint. Adjacent to this is the office of the Principal Technologist (4.0m X 5.0m).

vii) **Blood Transfusion Unit**

The blood bank facilities are housed in an old building near the hospital surgical block. It occupies an area of approximately 15m by 10m with rooms for blood storage, washing, laboratory, bleeding and a hallway. The rooms have emulsion painted wall which are very dirty from lack of maintenance. The work benches are covered with worn-out formica tops. The building appears structurally sound but has some rotten false ceiling timber members.

2.14 Tamale Central Hospital Laboratories

The hospital is located at the outskirts of Tamale. The laboratory space of the hospital (commissioned in 1974) is the largest of the country's hospitals. It has four wings disposed in a rectangular arrangement with a central block in the middle. One wing with five laboratory rooms, houses the blood bank reception (3.5m by 3.5m), bleeding room (3.5m by 5m), HIV testing (3.5m by 3.5m) and a store (3.5m by 5m).

One of the long wings has nine rooms. Three of the rooms are currently used as offices for the technologist, blood donation organizer and pathologist. These are followed by sterilization room (3.5m X 3.5m), media room (3.5m X 3.5m), microbiology (3.5m X 8m), special hematology room (3.5m X 5.0m) and other utility rooms.

The other short wing with five rooms houses the hematology laboratory (3.5m X 8.0m), parasitology (3.5m X 8.0m), cytology (3.5m X 3.5m) and the reception area.

The other long wing has a long laboratory (3.5m X 15m) which is not in use, office of Chief Technical Officer (3.5m X 3.5m) and a series of four other offices, some of which are not in permanent use.

The middle block houses the biochemistry section. It has a biochemistry laboratory (3.5m X 15.0m), a chemical preparation room (3.5m X 3.5m) and the office of the biochemist.

All the laboratories and the offices have wooden work benches with formica tops. Extreme temperature effects and contacts with water have caused the larger part of the formica bench tops to peel off and the wood underlying the deteriorating floors are covered with p.v.c. tiles which are worn out in many places. The middle block was built a few years ago but deterioration of the benches is already substantial.

One sees a widespread under-utilization of the large laboratory space available in the hospital. In general, the deterioration observed in the laboratory building is part of the general falling apart of the hospital infrastructure. An early rehabilitation is needed. Leaking roofs are a common problem.

Water supply to the hospital is a general problem as its installed reservoir has not been functioning for many years. The laboratory is usually supplied by tankers from the Water Utility Organization. Power supply is said to be regular from the hookup to the national grid. However, the laboratory has a small backup generator hooked up to the blood bank and the gynecology operation theater. No circuit stabilization is available. Its absence might be responsible for the early damage to the HIV testing equipment which has not been returned to Tamale since 1988. Only the HIV laboratory is air conditioned.

3. Justification for Laboratory Infrastructure Rehabilitation

3.1 National Public Health and Reference Laboratory

The laboratory has been without appropriate regular maintenance for over a decade. This has resulted in a seriously deteriorated

facility that can no longer be expected to function as a credible laboratory. Over the years, the demand on the laboratory has substantially increased as the only public health and reference laboratory facility for a country which has more than doubled in population during the past twenty years.

The current HIV testing responsibility for blood bank/transfusion services and other purposes have exacerbated the deterioration of the laboratory. The crowded and untidy conditions, due mainly to the presence of many years worth of unserviceable appliances, makes the building unattractive. Personnel availability may be a problem but more available space and an attractive laboratory work environment are likely to attract prospective staff. Moreover, the HIV confirmatory testing which should normally be done at the reference laboratory is currently undertaken at the Noguchi Medical Research Laboratory which has not been able to satisfy the Ministry of Health's confirmation test requirements.

The laboratory is beyond normal renovation and therefore it requires rehabilitation. The peeling p.v.c. tiles will require replacement by more durable ceramic floor tiles. Wooden work benches which have mostly formica tops will be replaced with concrete slabs that have hard and durable terrazzo finishes. Above and below bench storage shelves will be provided to eliminate the present unsatisfactory storage practice. Glazed ceramic wall tiles to be installed will also facilitate cleaning and will help keep the laboratories tidy.

The additional space for reception, laboratories, offices and storage to be provided will respond to pending space requirements when HIV confirmation testing begins and a greater magnitude of reference testing activities begins.

3.2 Kumasi Regional Reference Laboratory

In Kumasi, the main laboratory facilities are located in the Okomfo Anokye Teaching Hospital. A separate reference laboratory is required to support the activities of the Ministry of Health in the region. The existing building for the Medical Field Unit in Kumasi, or another building space to be provided by the Ministry of Health, will be rehabilitated to serve as a branch reference laboratory facility in the central zone of the country.

The rehabilitation will involve tiling, installation of cabinets for storage and installation of terrazzo bench top. This will give a neater laboratory environment and provide durable bench surfaces. Adequate room space will be provided to house the required reference laboratory testing activities.

The Kumasi reference laboratory will also eliminate travel to and from Korle Bu reference laboratory by patients and staff.

3.3 Effia Nkwanta Hospital Laboratory and Blood Transfusion Block

As in many places, the Effia Nkwanta laboratory facility lacked adequate maintenance in the past, resulting in a dilapidated working environment. The newly opened HIV testing laboratory does not meet satisfactory laboratory standards but has been receiving an increasing demand for testing from the Eikwe St. Martins Hospital, located near the boarder with Cote d'Ivoire.

The main laboratory will be rehabilitated to provide better space management that will allow the integration of HIV testing into one location. This will reduce the frequent movement of the supervisors on the steep slope connecting the two laboratories. The rehabilitation will make the laboratory surfaces easier to clean and to maintain as well as providing more storage space which will enhance the working environment.

Improved ventilation and air conditioners will be provided to reduce excessive heat build-up which has been the cause of stored chemical deterioration. The electrical circuit stabilizer to be installed will help limit frequent breakdowns and will prolong equipment life. The setting will save on maintenance cost and reduce drastically the frequency of replacing work benches.

The blood bank's dilapidated facilities will be rehabilitated to give a cleaner setting for the unit by replacing the concrete floor with floor tiles and providing more durable work benches and tiled wall surfaces in needed areas.

3.4 Tamale Branch Reference Laboratory

The relatively long distance of the northern regional capitals from Kumasi and Accra makes it important to have a reliable laboratory testing facility in Tamale to handle the northern zone requirements for HIV testing. Though Tamale hospital has the largest medical laboratory space in the country, the current state of the facilities is deplorable.

As it is envisaged to institute a branch reference laboratory in Tamale as well as capabilities for confirmatory testing of HIV, its laboratory facilities have to meet reasonable standards for reliable testing and information management. Currently, the peeling formica on work bench tops, rotting bench wood, peeling p.v.c. tiles and leaking roofs do not constitute an acceptable laboratory work environment.

Installation of suitable durable benches and floors are proposed and will reduce or eliminate frequent repairs and maintenance cost. The finishing of the benches and floors will also provide

a cleaner, safer and more efficient laboratory work environment for the laboratory staff.

The rehabilitation will also provide for stabilization of electric circuits which will help reduce damage to electrical equipment such as that which happened to the HIV testing equipment in 1988.

4.0 Design and Rehabilitation

4.1 Design

The existing laboratories will be redesigned for concrete work benches supported on masonry blockwork. The bench top and side surface finishes will be in white (or near white) colored terrazzo. The floors, which are not already with hard surface tiles, will be tiled with near white colored ceramic floor tiles. Exposed wall surfaces up to two meters from the floor will be in white glazed ceramic wall tiles. Closed cabinets beneath the benches will be provided for storage. Plumbing and electrical installations will be reviewed for their sufficiency. Air conditioners and fans will be installed where needed.

The extension to existing buildings will be one story with integrated column and beam frame with concrete block masonry. The roof will be corrugated aluminum sheet supported by timber pirlins. Plywood false ceilings will be used. The floors will be concrete reinforced with welded mesh. The rooms housing laboratories will also be equipped with concrete work benches and finishes will be proposed for the existing laboratories.

The work requirements of the proposed rehabilitation are familiar and usual activities of many construction firms in the country. The tradesmen and materials needed are readily available on the local market. A high quality rehabilitation product can be obtained with adequate A/E supervision.

4.2 Method of Contracting

Host country contracting procedures for using local currency will be used. Immediately after approval for project implementation, the Ministry of Health, through the project manager of the newly created Project Implementation Unit of the Ministry of Health will engage the services of ERGS Consortium for the rehabilitation activity. The ERGS Consortium has already been selected through an international bidding process and are currently working in the three southern hospitals, in question, in the project for the Ministry. The urgency for getting the laboratories completed in the shortest time possible has dictated the use of this consortium which is already in place. The

capacity of the ERG Consortium has been assessed by REDSO/WCA engineer and it is found satisfactory to take on the laboratory rehabilitation work envisaged in the project.

The Ministry will negotiate a consulting fee for the preparation of bid documentation and the subsequent supervision tasking. After completing the bid package and its approval by the Ministry and USAID, through the assistance of the A&E firm, a short list of selected local construction firms will be requested to bid for the work. With current decentralization in progress, the selection process could be centered in the regions. When the best responsive bidder is selected and the contract is made up, approval of USAID will be required.

During the rehabilitation contract period, REDSO/WCA will pay periodic visits to monitor the progress of work.

It is advisable that each regional rehabilitation effort be treated as a separate contract with a different construction firm for each regional activity. Much construction time can be saved through this approach.

5. Estimated Costs

Rehabilitation

The costs of rehabilitation work are provided in U.S. dollars and are based on unit work quantity prices in Ghana as of February 1991. The costs of extensions to existing laboratory buildings are based on average costs per unit area of similar buildings in Ghana, and based on early 1991 rates, $ 167.00 per square meter will be used to estimate costs for the required extensions at the National Public Health and Reference Laboratory. Costs of extra facilities as needed in a laboratory are estimated separately.

Because of the need for developing functioning regional laboratories within the shortest time possible, most of the rehabilitation work is programmed to be completed in the first year. Considering physical contingencies (10%), the cost estimate for the rehabilitation of the various laboratory facilities is detailed as follows:

National Public Health and Reference Laboratory at Korle Bu	$ 123,850
Kumasi Branch Reference Laboratory	$ 72,330
Effia Nkwanta Laboratory and Blood Bank Unit	$ 90,700
Tamale Regional Reference Laboratory	$ 91,400
Subtotal (Renovation & Extension)	$ 378,280
Architectural/Engineering Services	$ 22,700
SUBTOTAL	$ 400,980
Physical Contingencies (10%)	$ 40,098
GRAND TOTAL ESTIMATED COST	$ 441,078

6. Implementation Schedule

The time estimate, after the signature of project agreement and satisfaction of conditions precedent for the various stages of contracting and renovation/extension work, is estimated as follows:

- Detailing A/E Firm	1.0 month
- Detail design and preparation of bid documents	3.0 months
- Invitation for bids	1.5 months
- Bid analysis and contracting	2.0 months
- Renovations/extension work	4.0 months
Total time required	11.5 months

In discussions with the Head of the Ministry of Health Project Implementation Unit, Dr. Albert Q. Ottu, and the officials of the Ministry of Works and Housing, there is general assurance that the special circumstances of the laboratory rehabilitation will require close follow-up and pushing. These will shorten

considerably the implementation schedule. On the Ministry of Health side, Dr. Ottu's office and subcommittee on laboratories can be instrumental in close follow-up during implementation.

With the established quicker implementation method during the first year for work at the Public Health and Reference Laboratory in Korle Bu, the Branch Reference Laboratory in Kumasi and the Blood Transfusion Unit at Effia Nkwanta Hospital, the second and third year work at Effia Nkwanta Hospital and Tamale Branch Reference Laboratory, respectively, will be implemented without delays.

ANNEX I

STATUTORY CHECKLIST

5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable to the eligibility of countries to receive the following categories of assistance: (A) both Development Assistance and Economic Support Funds; (B) Development Assistance funds only; or (C) Economic Support Funds only.

A. COUNTRY ELIGIBILITY CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUND ASSISTANCE

1. Narcotics

a. Negative certification (FY 1991 Appropriations Act Sec. 559(b)): Has the President certified to the Congress that the government of the recipient country is failing to take adequate measures to prevent narcotic drugs or other controlled substances which are cultivated, produced or processed illicitly, in whole or in part, in such country or transported through such country, from being sold illegally within the jurisdiction of such country to United States Government personnel or their dependents or from entering the United States unlawfully?

NO

b. Positive certification (FAA Sec. 481(h)). (This provision applies to assistance of any kind provided by grant, sale, loan, lease, credit, guaranty, or insurance, except assistance from the Child Survival Fund or relating to international narcotics control, disaster and refugee relief, narcotics education and awareness, or the provision of food or medicine.) If the recipient is a "major illicit drug producing country" (defined as a country producing during a fiscal year at least five metric tons of opium or 500 metric tons of coca or marijuana) or a "major drug-transit country" (defined as a country that is a significant direct source of illicit drugs significantly

GHANA IS NOT CONSIDERED A MAJOR ILLICIT DRUG PRODUCING OR A MAJOR DRUG TRANSIT COUNTRY.

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affecting the United States, through which such drugs are transported, or through which significant sums of drug-related profits are laundered with the knowledge or complicity of the government):

(1) does the country have in place a bilateral narcotics agreement with the United States, or a multilateral narcotics agreement?

(2) has the President in the March 1 International Narcotics Control Strategy Report (INSCR) determined and certified to the Congress (without Congressional enactment, within 45 days of continuous session, of a resolution disapproving such a certification), or has the President determined and certified to the Congress on any other date (with enactment by Congress of a resolution approving such certification), that (a) during the previous year the country has cooperated fully with the United States or taken adequate steps on its own to satisfy the goals agreed to in a bilateral narcotics agreement with the United States or in a multilateral agreement, to prevent illicit drugs produced or processed in or transported through such country from being transported into the United States, to prevent and punish drug profit laundering in the country, and to prevent and punish bribery and other forms of public corruption which facilitate production or shipment of illicit drugs or discourage prosecution of such acts, or that (b) the vital national interests of the United States require the provision of such assistance?

C. Government Policy (1986 Anti-Drug Abuse Act of 1986 Sec. 2013(b)). (This section applies to the same categories of assistance subject to the restrictions in FAA Sec. 481(h), above.) If recipient country is a "major illicit drug producing country" or "major drug-transit country" (as defined for the purpose of FAA Sec 481(h)), has the President submitted a report to Congress listing such country as one: (a) which, as a matter of government policy, encourages or facilitates the production

N/A

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or distribution of illicit drugs; (b) in which any senior official of the government engages in, encourages, or facilitates the production or distribution of illegal drugs; (c) in which any member of a U.S. Government agency has suffered or been threatened with violence inflicted by or with the complicity of any government officer; or (d) which fails to provide reasonable cooperation to lawful activities of U.S. drug enforcement agents, unless the President has provided the required certification to Congress pertaining to U.S. national interests and the drug control and criminal prosecution efforts of that country?

2. **Indebtedness to U.S. citizens** (FAA Sec. 620(c): If assistance is to a government, is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, (b) the debt is not denied or contested by such government, or (c) the indebtedness arises under an unconditional guaranty of payment given by such government or controlled entity? NO

3. **Seizure of U.S. Property** (FAA Sec. 620(e)(1)): If assistance is to a government, has it (including any government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? NO

4. **Communist countries** (FAA Secs. 620(a), 620(f), 620D; FY 1991 Appropriations Act Secs. 512, 545): Is recipient country a Communist country? If so, has the President: (a) determined that assistance to the country is vital to the security of the United States, that the recipient country is not controlled by the international Communist conspiracy, and that such assistance will further promote the independence of the recipient country from international communism, or (b) removed a country from applicable NO

4(a). N/A

4(b). N/A

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restrictions on assistance to communist countries upon a determination and report to Congress that such action is important to the national interest of the United States? Will assistance be provided either directly or indirectly to Angola, Cambodia, Cuba, Iraq, Libya, Vietnam, Iran or Syria?	NO
Will assistance be provided to Afghanistan without a certification, or will assistance be provided inside Afghanistan through the Soviet-controlled government of Afghanistan?	NO
5. Mob Action (FAA Sec. 620(j)): Has the country permitted, or failed to take adequate measures to prevent, damage or destruction by mob action of U.S. property?	NO
6. OPIC Investment Guaranty (FAA Sec. 620(l)): Has the country failed to enter into an investment guaranty agreement with OPIC?	GHANA HAS AN INVESTMENT AGREEMENT WITH OPIC.
7. Seizure of U.S. Fishing Vessels (FAA Sec. 620(o); Fishermen's Protective Act of 1967 (as amended) Sec. 5): (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel because of fishing activities in international waters?	7 (a). NO
(b) If so, has any deduction required by the Fishermen's Protective Act been made?	7 (b). N/A
8. Loan Default (FAA Sec. 620(q); FY 1991 Appropriations Act Sec. 518 (Brooke Amendment)): (a) Has the government of the recipient country been in default for more than six months on interest or principal of any loan to the country under the FAA?	8(a). NO
(b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the FY 1990 Appropriations Act appropriates funds?	8(b). NO
9. Military Equipment (FAA Sec. 620(s)): If contemplated assistance is development loan or to come from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget and amount of the country's foreign exchange or other resources spent on military equipment?	N/A

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(Reference may be made to the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

10. **Diplomatic Relations with U.S.** (FAA Sec. 620(t)): Has the country severed diplomatic relations with the United States? If so, have relations been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? NO

11. U.N. Obligations (FAA Sec. 620(u)): What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the A.I.D. Administrator in determining the current A.I.D. Operational Year Budget? (Reference may be made to the "Taking into Consideration" memo.) GHANA IS NOT IN ARREARS IN ITS UN OBLIGATIONS.

12. International Terrorism

a. Sanctuary and support (FY 1991 Appropriations Act Sec. 556; FAA Sec. 620A): Has the country been determined by the President to: (a) grant sanctuary from prosecution to any individual or group which has committed an act of international terrorism, or (b) otherwise support international terrorism, unless the President has waived this restriction on grounds of national security or for humanitarian reasons? 12(a). NO 12(b). NO

b. Airport Security (ISDCA of 1985 Sec. 552(b). Has the Secretary of State determined that the country is a high terrorist threat country after the Secretary of Transportation has determined, pursuant to section 1115(e)(2) of the Federal Aviation Act of 1958, that an airport in the country does not maintain and administer effective security measures? NO

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13. Discrimination (FAA Sec. 666(b)): Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

NO

14. Nuclear Technology (FAA Secs. 669, 670): Has the country, after August 3, 1977, delivered to any other country or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards, and without special certification by the President? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device? If the country is a non-nuclear weapon state, has it, on or after August 8, 1985, exported (or attempted to export) illegally from the United States any material, equipment, or technology which would contribute significantly to the ability of a country to manufacture a nuclear explosive device? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)

NO

NO

15. Algiers Meeting (ISDCA of 1981, Sec. 720): Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Assembly of the U.N. on Sept. 25 and 28, 1981, and did it fail to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the "Taking into Consideration" memo.)

GHANA HAS NOT YET ENTERED RESERVATIONS. THE MATTER WAS TAKEN INTO ACCOUNT BY THE A.I.D. ADMINISTRATOR AT THE TIME OF APPROVAL OF THE AGENCY'S OYB.

16. Military Coup (FY 1991 Appropriations Act Sec. 513): Has the duly elected Head of Government of the country been deposed by military coup or decree? If assistance has been terminated, has the President notified Congress that a democratically elected government has taken office prior to the resumption of assistance?

NO

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17. Refugee Cooperation (FY 1991 Appropriations Act Sec. 539): Does the recipient country fully cooperate with the international refugee assistance organizations, the United States, and other governments in facilitating lasting solutions to refugee situations, including resettlement without respect to race, sex, religion, or national origin? YES

18. Exploitation of Children (FY 1991 Appropriations Act Sec. 599D, amending FAA Sec. 116): Does the recipient government fail to take appropriate and adequate measures, within its means, to protect children from exploitation, abuse or forced conscription into military or paramilitary services? NO

B. COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO DEVELOPMENT ASSISTANCE ("DA")

1. Human Rights Violations (FAA Sec. 116): Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy? NO

2. Abortions (FY 1991 Appropriations Act Sec. 535): Has the President certified that use of DA funds by this country would violate any of the prohibitions against use of funds to pay for the performance of abortions as a method of family planning, to motivate or coerce any person to practice abortions, to pay for the performance of involuntary sterilization as a method of family planning, to coerce or provide any financial incentive to any person to undergo sterilizations, to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? NO

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C. COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO ECONOMIC SUPPORT FUNDS ("ESF")

Human Rights Violations (FAA Sec. 502B): Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the President found that the country made such significant improvement in its human rights record that furnishing such assistance is in the U.S. national interest?	N/A

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5C(2) - ASSISTANCE CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of country to receive assistance. This section : divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

CROSS REFERENCE: IS COUNTRY CHECKLIST UP TO DATE?

A. CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1. **Host Country Development Efforts** (FAA Sec. 601(a)): Information and conclusions on whether assistance will encourage efforts of the country to: (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.

PROGRAM RELIES PRIMARILY C THE MOBILIZATION OF PRIVAI SECTOR ORGANIZATIONS/BUSINE TO SUPPORT FAMILY PLANNING MATERNAL/CHILD HEALTH AND HIV/AIDS ACTIVITIES. ADDITIONALLY, A CA GRANT WILL BE AUCTIONED BY THE BANK OF GHANA, W WILL PROVIDE SECTOR BUSINESSES AC TO CRITICAL FOREIGN EXCHANGE WHIC WILL SUPPORT PRIVATE INVESTMENT, EXPORT AND TRADE.

2. **U.S. Private Trade and Investment** (FAA Sec. 601(b)): Information and conclusions on how assistance 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).

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3. Congressional Notification

a. General requirement (FY 1991 Appropriations Act Secs. 523 and 591; FAA Sec. 634A): If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the notification requirement has been waived because of substantial risk to human health or welfare)?	N/A
b. Notice of new account obligation (FY 1991 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?	N/A
c. Cash transfers and nonproject sector assistance (FY 1991 Appropriations Act Sec. 575(b)(3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic poolicy reforms to be promoted?	NON PROJECT ASSISTANCE IS NOT PART OF THIS AMENDMEN THE PARENT PP/PAAD PROVIDED NECESSARY CN.
4. Engineering and Financial Plans (FAA Sec. 611(a)): Prior to an obligation in excess of $500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?	YES, ALL RELEVANT PLANS H BEEN CARRIED OUT AND A REASONABLY FIRM ESTIMATE (COST OF ASSISTANCE HAS BE ESTABLISHED.
5. Legislative Action (FAA Sec. 611(a)(2)): If legislative action is required within recipient country with respect to an obligation in excess of $500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance?	CONDITIONALITY FOR TRANCH 1 OF THE NON-PROJECT ASSISTANCE PROGRAM REQUIR THE GOG TO CHANGE CLASSIF CATION OF CERTAIN DRUGS T EXEMPT OR LESS DANGEROUS CATEGORIES. THE PHARMACY BOARD WHICH OVERSEES THIS ACTION HAS INDICATED THAT THEY ANTICIPATE NO PROBLE IN MEETING THIS CONDITION IT WAS ALREADY BEING CONS BY THE PHARMACY BOARD.

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6. Water Resources (FAA Sec. 611(b); FY 1991 Appropriations Act Sec. 501): If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)	N/A
7. Cash Transfer and Sector Assistance (FY 1991 Appropriations Act Sec. 575(b)): Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?	NPA IN PARENT PP/PAAD MAINTAINED IN A SEPARATE NON COMMINGLED ACCOUNT.
8. Capital Assistance (FAA Sec. 611(e)): If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?	N/A
9. Multiple Country Objectives (FAA Sec. 601(a)): Information and conclusions on whether projects will encourage efforts of the country to: (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.	PROGRAM RELIES PRIMARILY O THE MOBILIZATION OF PRIVATI SECTOR ORGANIZATIONS/ BUSINESSES TO SUPPORT FAMI PLANNING, MATERNAL/CHILD HEALTH AND HIV/AIDS ACTIVI ADDITIONALLY, A CA GRANT W BE AUCTIONED BY THE BANK O GHANA, WHICH WILL PROVIDE PRIVATE SECTOR BUSINESSES ACCESS TO CRITICAL FOREIGN EXCHANGE WHICH WILL SUPPOR PRIVATE INVESTMENT, EXPORT AND TRADE.
10. U.S. Private Trade (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).	

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11. Local Currencies

a. Recipient Contributions (FAA Secs. 612(b), 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 in lieu of dollars.

24% OF THE COST OF THE PROGRAM IS FINANCED BY GOG IN-KIND AND CASH CONTRIBUTIONS. GOG IS FINANCING ALL LOCAL COST RELATED TO ASSISTANCE TO PUBLIC SECTOR HEALTH PROFESSIONALS.

b. U.S.-Owned Currency (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

c. Separate Account (FY 1991 Appropriations Act Sec. 575). If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

YES

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

YES

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

YES

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(4) If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government? YE

12. **Trade Restrictions**

a. **Surplus Commodities** (FY 1991 Appropriations Act Sec. 521(a)): 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? NO

b. **Textiles** (Lautenberg Amendment) (FY 1991 Appropriations Act Sec. 521(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel? NO

13. **Tropical Forests** (FY 1991 Appropriations Act Sec. 533(c)(3)): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas? NO

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14. Sahel Accounting (FAA Sec. 121(d)): If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? N/A

15. PVO Assistance

a. Auditing and registration (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? YES

b. Funding sources (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? YES

16. Project Agreement Documentation (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). CONFIRMATION OF THE SIGNING OF THE AGREEMENT AND THE FULL TEXT OF THE AGREEMENT WILL BE SENT TO STATE L/T AND A.I.D. LEG WITHIN 60 DAYS OF THE AGREEMENT'S ENTRY INTO FORCE.

17. Metric System (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the NO

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extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

YES. AS A FAMILY PLANNING MATERNAL/CHILD HEALTH AND HIV/AIDS PROGRAM, THE MAJORITY OF ASSISTANCE IS GEARED TO WOMEN. WOMEN HEALTH PROFESSIONALS ALSO WILL BE TRAINED. AIDS IN AFRICA IS A MAJOR PROBLEM IN WOMEN, THEREFORE MOST PREVENTION EFFORTS WILL TARGET WOMEN AND THEIR FAMILIES.

18. Women in Development (FY 1991 Appropriations Act, Title II, under heading "Women in Development"): Will assistance be designed so that the percentage of women participants will be demonstrably increased?

19. Regional and Multilateral Assistance (FAA Sec. 209): Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.

NO. THE PROGRAM FOCUSES ON COUNTRY-SPECIFIC POLICIES AND ACTIVITIES NOT SUBJECT TO REGIONAL EXECUTION. HOWEVER, THE PROGRAM IS SUPPORTIVE OF WORLD BANK, UNICEF, UNFPA AND WHO POLICIES AND GOALS THROUGH THEIR FAMILY PLANNING, HEALTH AND HIV/AIDS PROGRAMS IN GHANA.

20. Abortions (FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 525):

a. Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?

NO

b. Will any funds be used to lobby for abortion?

NO

21. Cooperatives (FAA Sec. 111): Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life?

YES. WILL PROVIDE INDIGENOUS NGOS, INCLUDING COOPERATIVES TECHNICAL ASSISTANCE.

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22. U.S.-Owned Foreign Currencies

a. Use of currencies (FAA Secs. 612(b), 636(h); FY 1991 Appropriations Act Secs. 507, 509): Describe steps taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services.

b. Release of currencies (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

23. Procurement

a. Small business (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? YES

b. U.S. procurement (FAA Sec. 604(a)): Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him? YES

c. Marine insurance (FAA Sec. 604(d)): If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?

d. Non-U.S. agricultural procurement (FAA Sec. 604(e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) N/A

e. Construction or engineering services (FAA Sec. 604(g)): Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible NO

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under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)

f. **Cargo preference shipping** (FAA Sec. 603)): Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent 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 such vessels are available at fair and reasonable rates? NO

g. **Technical assistance** (FAA Sec. 621(a)): If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? YES

h. **U.S. air carriers** (International Air Transportation Fair Competitive Practices Act, 1974): If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available? YES

i. **Termination for convenience of U.S. Government** (FY 1991 Appropriations Act Sec. 504): If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? YES

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j. Consulting services (FY 1991 Appropriations Act Sec. 524): If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? N/A

k. Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage? NO

l. Competitive Selection Procedures (FAA Sec. 601(e)): Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? YES

24. Construction

a. Capital project (FAA Sec. 601(d)): If capital (e.g., construction) project, will U.S. engineering and professional services be used? N/A

b. Construction contract (FAA Sec. 611(c)): If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? N/A

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c. Large projects, Congressional approval (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 (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress? N/A

25. U.S. Audit Rights (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? YES

26. Communist Assistance (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? N/A

27. Narcotics

a. Cash reimbursements (FAA Sec. 483): Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? YES

b. Assistance to narcotics traffickers (FAA Sec. 487): Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance? YES

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28. Expropriation and Land Reform (FAA Sec. 620(g)): Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President?	YES
29. Police and Prisons (FAA Sec. 660): Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?	YES
30. CIA Activities (FAA Sec. 662): Will assistance preclude use of financing for CIA activities?	YES
31. Motor Vehicles (FAA Sec. 636(i)): Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained?	WAIVER HAS BEEN OBTAINED.
32. Military Personnel (FY 1991 Appropriations Act Sec. 503): Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel?	YES
33. Payment of U.N. Assessments (FY 1991 Appropriations Act Sec. 505): Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues?	YES
34. Multilateral Organization Lending (FY 1991 Appropriations Act Sec. 506): Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)?	YES
35. Export of Nuclear Resources (FY 1991 Appropriations Act Sec. 510): Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology?	YES

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36. **Repression of Population** (FY 1991 Appropriations Act Sec. 511): Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? YES

37. **Publicity or Propoganda** (FY 1991 Appropriations Act Sec. 516): Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress? NO

38. **Marine Insurance** (FY 1991 Appropriations Act Sec. 563): Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate? YES

39. **Exchange for Prohibited Act** (FY 1991 Appropriations Act Sec. 569): Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law? NO

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B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

1. **Agricultural Exports (Bumpers Amendment)** (FY 1991 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment): If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?	N/A
2. **Tied Aid Credits** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund"): Will DA funds be used for tied aid credits?	NO
3. **Appropriate Technology** (FAA Sec. 107): Is special emphasis placed on use of appropriate technology (defined as 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, SIMPLE/RAPID DIAGNOS ASSAYS FOR HIV WILL BE PROCURRED, WHICH ARE THE COST-EFFICIENT, STATE-OF- ART METHODS AVAILABLE AND APPROPRIATE FOR USE IN AFRICA.
4. **Indigenous Needs and Resources** (FAA Sec. 281(b)): Describe extent to which the activity recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.	THE ACTIVITY IS DESIGNED TO THE SPECIFIC SKILLS OF GHANA INTELLECTUAL RESOURCES WITH AMOUNT OF INSTITUTIONAL STRENGTHENING DEEMED NECESSA BOLSTER THE NATIONAL EFFORT THE PREVENTION AND CONTROL OF HI AIDS IN GHANA. INTERVENTIONS IN AREA INCLUDE IEC CAMPAIGNS TO EDUCATE POPULATIONS AT RISK, FUN OF EDUCATION FOR NATIONAL POLICY-MAKERS AND TRAINING FOR LABORATO TECHNICIANS AND CLINICIANS.

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5. Economic Development (FAA Sec. 101(a)): 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

6. Special Development Emphases (FAA Secs. 102(b), 113, 281(a)): Describe 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, dispersing investment 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 appropriate U.S. institutions; (b) 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.

6a) THIS ACTIVITY WILL PROM THE PREVENTION AND CONTROL HIV/AIDS INFECTION, AN EPID IN GHANA WHICH SPREADS THRO ALL ECONOMIC CLASSES, BOTH URBAN AND RURAL. COST-EFFE APPROPRIATE TECHNOLOGIES FO HIV DIAGNOSIS WILL BE FUNDE AS WELL AS PARTICIPATION BY BOTH PUBLIC AND PRIVATE INSTITUTIONS.

6b) N/A

6c) TRAINING OF TRAINERS A EDUCATION OF POLICY-MAKERS, TECHNICIANS AND CLINICIANS PROJECTED ACTIVITIES WHICH SHOULD SUPPORT SELF-HELP EF

7. Recipient Country Contribution (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

YES

8. Benefit to Poor Majority (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

YES. IT WILL BE MONITORED ENSURE THAT IT IS MAKING TH GREATEST POSSIBLE IMPACT GI SCARCE RESOURCES, LIMITED ABSORPTIVE CAPACITIES AND A DYNAMIC EVOLUTION OF THE DI AND SUBSEQUENT STRATEGIES T COMBAT IT. THE POOR MAJORI ARE SIGNIFICANTLY AFFECTED THE EPIDEMIC AND, THUS, WILL BE MA BENEFICIARIES OF THE DESIGNED INTERVENTIONS OF THIS PROJECT.

6d) BOTH MORBIDITY AND MORTALITY OF WOMEN WILL BE REDUCED, ENABLING WOMEN TO MORE FULLY PARTICIPATE IN NATIONAL ECONOMICS.

6e) EDUCATION AND TRAINING ACTIVITIES ARE EXPECTED TO BRING TOGETHER POLICY MAKER TECHNICIANS AND CLINICIANS IN THEIR COOPERATIVE EFFORTS TO COMBAT THE SPREAD OF HIV/AIDS.

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9. Abortions (FAA Sec. 104(f); FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 535):

a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? N

b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? N

c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? NO

d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services? YES

e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning? NO

f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? NO

g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization? NO

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10. Contract Awards (FAA Sec. 601(e)): Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	YES
11. Disadvantaged Enterprises (FY 1991 Appropriations Act Sec. 567): What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?	NO PERCENTAGE OF FUNDS HA BEEN DESIGNATED BUT IT IS EXPECTED THAT GRAY AMENDM ORGANIZATIONS WILL HAVE A OPPORTUNITY TO PARTICIPAT IN THE COMPETATIVE PROCES OF SELECTION OF IMPLEMENT AGENTS.
12. Biological Diversity (FAA Sec. 119(g): Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?	N/A
13. Tropical Forests (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c)-(e) & (g)):	
a. A.I.D. Regulation 16: Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16?	N/A
b. Conservation: Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent	N/A

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feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; (11) utilize the resources and abilities of all relevant U.S. government agencies; (12) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land; and (13) take full account of the environmental impacts of the proposed activities on biological diversity?

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c. **Forest degradation:** Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas; (3) activities which would result in the conversion of forest lands to the rearing of livestock; (4) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (5) the colonization of forest lands; or (6) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

N/A

d. **Sustainable forestry:** If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry?

N/A

e. **Environmental impact statements:** Will funds be made available in accordance with provisions of FAA Section 117(c) and applicable A.I.D. regulations requiring an environmental impact statement for activities significantly affecting the environment?

THIS PROJECT INCLUDES NO COMPONENT WHICH DIRECTLY AFFECTS THE ENVIRONMENT.

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14. Energy (FY 1991 Appropriations Act Sec. 533(c)): If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases? N/A

15. **Sub-Saharan Africa Assistance** (FY 1991 Appropriations Act Sec. 562, adding a new FAA chapter 10 (FAA Sec. 496)): If assistance will come from the Sub-Saharan Africa DA account, is it: (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) to be used to promote sustained economic growth, encourage private sector development, promote individual initiatives, and help to reduce the role of central governments in areas more appropriate for the private sector; (c) being provided in accordance with the policies contained in FAA section 102; (d) being provided in close consultation with African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (e) being used to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (f) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, YES

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to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas? YES

16. Debt-for-Nature Exchange (FAA Sec. 463): If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and atmosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management. N/A

17. Deobligation/Reobligation (FY 1991 Appropriations Act Sec. 515): If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified? N/A

18. Loans

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

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b. **Long-range plans** (FAA Sec. 122(b)): Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

YES, DECREASING THE INCIDENCE OF HIV/AIDS IN AFRICAN ADULTS WILL RESUL IN DECREASED LOSSES IN SI WORKFORCE AND AN INCREASEI LABOR PRODUCTIVITY.

c. **Interest rate** (FAA Sec. 122(b)): If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter?

N/A

d. **Exports to United States** (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 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?

N/A

19. **Development Objectives** (FAA Secs. 102(a), 111, 113, 281(a)): Extent to which activity will: (1) effectively involve the poor in development, by expanding 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; (2) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?

a) THIS ACTIVITY WILL PROMOT THE PREVENTION AND CONTROL OF AIDS INFECTION, AN EPIDEMIC I GHANA WHICH SPREADS THROUGH A ECONOMIC CLASSES, BOTH URBAN AND RURAL. COST-EFFECTIVE, APPROPRIATE TECHNOLOGIES FOR HIV DIAGNOSIS,WILL BE FUNDED WELL AS PARTICIPATION BY BOTH PUBLIC AND PRIVATE INSTITUTIO

b) N/A

c) TRAINING OF TRAINERS AND EDUCATION OF POLICY-MAKERS, TECHNICIANS AND CLINICIANS AR PROJECTED ACTIVITIES WHICH SH SUPPORT SELF-HELP EFFORTS.

d) BOTH MORBIDITY AND MORTAL OF WOMEN WILL BE REDUCED, EN WOMEN TO MORE FULLY PARTICIPA IN NATIONAL ECONOMICS.

e) EDUCATION AND TRAINING ACTIVITIES ARE EXPECTED TO BR TOGETHER POLICY MAKERS, TECHNICIANS AND CLINICIANS IN THEIR COOPERATIVE EFFORTS TO COMBAT THE SPREAD OF HIV/AIDS

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20. Agriculture, Rural Development and Nutrition, and Agricultural Research (FAA Secs. 103 and 103A):

a. Rural poor and small farmers: If assistance is being made available for agriculture, rural development or nutrition, describe extent to which activity is specifically designed to increase productivity and income of rural poor; or if assistance is being made available for agricultural research, has account been taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made. N/A

b. Nutrition: Describe extent to which assistance is used in coordination with efforts carried out under FAA Section 104 (Population and Health) to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value; improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people. N/A

c. Food security: Describe extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution. N/A

21. Population and Health (FAA Secs. 104(b) and (c)): If assistance is being made available for population or health activities, describe extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of

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mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

SEE RESPONSE TO ITEM 6 a-e ON PAGE I-23.

22. Education and Human Resources Development (FAA Sec. 105): If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

N/A

23. Energy, Private Voluntary Organizations, and Selected Development Activities (FAA Sec. 106): If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

N/A

a. concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;

N/A

b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

NO

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c. research into, and evaluation of, economic development processes and techniques; N/A

d. reconstruction after natural or manmade disaster and programs of disaster preparedness; N/A

e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance; N/A

f. for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development. N/A

24. Sahel Development (FAA Secs. 120-21). If assistance is being made available for the Sahelian region, describe: (a) extent to which there is international coordination in planning and implementation; participation and support by African countries and organizations in determining development priorities; and a long-term, multidonor development plan which calls for equitable burden-sharing with other donors; (b) whether a determination has been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of projects funds (dollars or local currency generated therefrom). N/A

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C. CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

N/A

1. **Economic and Political Stability** (FAA Sec. 531(a)): Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

2. **Military Purposes** (FAA Sec. 531(e)): Will this assistance be used for military or paramilitary purposes?

3. **Commodity Grants/Separate Accounts** (FAA Sec. 609): If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

4. **Generation and Use of Local Currencies** (FAA Sec. 531(d)): Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106?

5. **Cash Transfer Requirements** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 575(b)). If assistance is in the form of a cash transfer:

a. **Separate account:** Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds?

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b. **Local currencies:** Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements?

c. **U.S. Government use of local currencies:** Will all such local currencies also be used in accordance with FAA Section 609, which requires such local currencies to be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available?

d. **Congressional notice:** Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance?

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ANNEX J

BUDGET TABLES

SUMMARY BUDGET: A.I.D. CONTRIBUTION:

	Year 1	Year 2	Year 3	Year 4	Total:
I. Information, Education and Communication Component					
1. Home Office Support	$5,500	$6,000	$6,700	$7,300	$25,500
2. Long Term Technical Assistance (One Person times three years) Totals:	$193,966	$134,585	$171,650	$0	$500,201
3. Short Term Technical Assistance (4 trips, 60 days)	$40,860	$43,920	$47,392	$50,932	$183,104
4. Other Direct Costs	$1,500	$1,650	$2,815	$1,996	$7,961
5. Commodities and Equipment	$59,000	$18,150	$19,965	$19,965	$117,080
6. Indirect Costs:	$113,210	$65,984	$88,104	$40,063	$307,361
7. Participant Training	$40,000	$35,000	$30,000	$20,000	$125,000
Total U.S.$	$454,036	$305,289	$366,626	$140,256	$1,266,207
Local Currency Costs:					
Operating Expenses:	$15,375	$7,901	$8,490	$9,100	$40,866
Project Costs:	$157,145	$162,920	$190,631	$209,894	$720,590
	$172,520	$170,821	$199,121	$218,994	$761,456
Grand Total:	$626,556	$476,110	$565,747	$359,250	$2,027,663

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II. Health Information and Laboratory Support Services

1. Home Office Support	$5,500	$6,000	$6,700	$7,300	$25,500
2. Long Term Technical Assistance	$215,586	$155,305	$171,870	$197,700	$740,461
3. Short Term Technical Assistance	$81,720	$81,200	$76,200	$81,600	$320,720
4. Other Direct Costs	$1,500	$1,650	$2,815	$1,996	$7,961
5. Indirect Costs:	$82,354	$66,376	$71,535	$87,170	$307,436
6. Commodities and Equipment, Health Information Systems	$90,000	$45,000	$25,000	$25,000	$185,000
7. Commodities and Equipment, Laboratory Support	$286,000	$232,000	$301,000	$225,000	$1,044,000
8. Participant Training	$60,000	$60,000	$30,000	$30,000	$180,000
9. Support to Noguchi Institute	$50,000	$50,000	$50,000	$50,000	$200,000
Total Dollar Cost:	$830,306	$626,155	$638,585	$593,596	$2,027,663

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Local Currency Costs:

Operating Expenses:	$8,000	$0	$0	$0	$8,000
Project Costs:	$25,830	$28,175	$29,850	$31,840	$115,695
	$33,830	$28,175	$29,850	$31,840	$123,695
A.I.D. Expenses	$0	$60,000	$0	$100,000	$160,000
Grand Total All Components:	$1,490,692	$1,190,439	$1,234,183	$1,084,686	$5,000,000

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AIDS AMENDMENT
GHANA FAMILY PLANNING AND HEALTH PROGRAM
DETAILED COST ESTIMATE

	Year 1	Year 2	Year 3	Year 4	Total:
I. Information, Education and Communication Component					
1. Home Office Support	$5,500	$6,000	$6,700	$7,300	$25,500
2. Long Term Technical Assistance (One Person times three years)					
Salary					
Base Pay	$60,000	$63,580	$65,709		$189,289
Benefits					
Health Insurance	$2,926	$2,926	$2,926		$8,778
Life Insurance	$500	$500	$500		$1,500
SOS Insurance	$400	$400	$400		$1,200
Pre-Contract	$1,080	$1,080	$1,080		$3,240
FICA	$5,760	$6,104	$6,308		$18,172
Allowances					
Education	$7,200	$7,200	$7,200		$21,600
Hardship	$15,000	$15,895	$16,427		$47,322
COLA	$1,200	$1,200	$1,200		$3,600
Shipment of effects					
UAB	$2,800		$2,800		$5,600
HHE	$25,000		$25,000		$50,000
POV	$2,500		$2,500		$5,000
Storage	$2,500	$2,500	$2,500		$7,500
Change of Station Costs:					
Travel to/from Post	$2,500		$2,500		$5,000
Travel, 3 Dependant	$7,500		$7,500		$15,000
Temporary Subsist	$3,000		$3,000		$6,000
Transfer Allowance	$700		$700		$1,400
R&R Travel		$9,800			$9,800
In-Country Travel	$2,000	$2,000	$2,000		$6,000
Housing	$15,000	$15,000	$15,000		$45,000
Maintenance & Inciden	$4,000	$4,000	$4,000		$12,000
Guard Service	$2,400	$2,400	$2,400		$7,200
Furniture/Appliances/	$30,000				$30,000
Totals:	$193,966	$134,585	$171,650	$0	$500,201
3. Short Term Technical Assistance (4 trips, 60 days)					
Salaries	$18,400	$19,200	$20,100	$21,000	$78,700
Travel					$0
Air Fare	$15,200	$16,720	$18,392	$20,232	$70,544
Per Diem	$7,260	$8,000	$8,900	$9,700	$33,860
Totals:	$40,860	$43,920	$47,392	$50,932	$183,104
4. Other Direct Costs	$1,500	$1,650	$2,815	$1,996	$7,961
					$0
5. Commodities and Equipment					$0
Computers	$25,000				$25,000
Vehicle	$17,500				$17,500
IE&C Materials	$16,500	$18,150	$19,965	$19,965	$74,580
Totals:	$59,000	$18,150	$19,965	$19,965	$117,080
6. Indirect Costs:	$113,210	$65,984	$88,104	$40,063	$307,361
7. Participant Training					

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Advanced Education (1 year each, Nigeria)	$20,000	$10,000	$10,000		$40,000
Short Courses @ $10,000/3 wks	$20,000	$20,000	$20,000	$20,000	$80,000
Observation Tours: 3 people for two weeks:		$5,000			$5,000
Total:	$40,000	$35,000	$30,000	$20,000	$125,000
Total Dollar Cost:	$454,036	$305,289	$366,626	$140,256	$1,266,207

Local Currency Costs:

ESTABLISHMENT COSTS

1. Office Furniture	$3,300				$3,300
2. Office Machines	$4,700				$4,700

OPERATING COSTS

1. Vehicle Operation and Maintenance					
Petrol	$660	$726	$800	$880	$3,066
Maintenance	$735	$800	$890	$980	$3,405
Insurance	$330	$375	$400	$440	$1,545
2. Office Space					
Rent	$0	$0	$0	$0	$0
Utilities	$0	$0	$0	$0	$0
Maintenance	$0	$0	$0	$0	$0
3. Office Supplies	$1,650	$1,800	$2,000	$2,200	$7,650
4. Off. Equip Maint	$2,000	$2,200	$2,400	$2,600	$9,200
5. Local Travel	$2,000	$2,000	$2,000	$2,000	$8,000
Total:	$15,375	$7,901	$8,490	$9,100	$40,866

	Year 1	Year 2	Year 3	Year 4	Total:
LOCAL PROCUREMENT FOR PROJECT ACTIVITIES					
1. Services					
Advertising Campaigns	$103,125	$103,280	$124,781	$137,259	$468,445
Logistics	$4,520	$5,190	$5,955	$6,750	$22,415
2. Supplies and Equipmen	$16,500	$18,150	$19,965	$21,962	$76,577
3. Consulting Services	$33,000	$36,300	$39,930	$43,923	$153,153
Total:	$157,145	$162,920	$190,631	$209,894	$720,590
Total Local Costs:	$172,520	$170,821	$199,121	$218,994	$761,456

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	Year 1	Year 2	Year 3	Year 4	Total:
II. Health Information and Laboratory Support Services					
1. Home Office Support	$5,500	$6,000	$6,700	$7,300	$25,500
2. Long Term Technical Assistance (One Person times four years)					
Salary					
Base Pay	$60,000	$63,580	$65,709	$69,000	$258,289
Benefits					
Health Insurance	$2,926	$2,926	$2,926	$2,926	$11,704
Life Insurance	$500	$500	$500	$500	$2,000
SOS Insurance	$400	$400	$400	$400	$1,600
Pre-Contract	$1,080	$1,080	$1,080	$1,080	$4,320
FICA	$5,760	$6,104	$6,308	$6,624	$24,796
Allowances					
Education	$28,820	$28,820	$28,820	$28,820	$115,280
Hardship	$15,000	$15,895	$16,427	$17,250	$64,572
COLA	$1,200	$1,200	$1,200	$1,200	$4,800
Shipment of effects					
UAB	$2,800			$2,800	$5,600
HHE	$25,000			$25,000	$50,000
POV	$2,500			$2,500	$5,000
Storage	$2,500	$2,500	$2,500	$2,500	$10,000
Change of Station Costs:					
Travel to/from Post	$2,500		$2,500	$2,500	$7,500
Travel, 3 Dependant	$7,500		$7,500	$7,500	$22,500
Temporary Subsist	$3,000		$3,000	$3,000	$9,000
Transfer Allowance	$700		$700	$700	$2,100
R&R Travel		$8,900	$8,900		$17,800
In-Country Travel	$2,000	$2,000	$2,000	$2,000	$8,000
Housing	$15,000	$15,000	$15,000	$15,000	$60,000
Maintenance & Inciden	$4,000	$4,000	$4,000	$4,000	$16,000
Guard Service	$2,400	$2,400	$2,400	$2,400	$9,600
Furniture/Appliances/	$30,000				$30,000
Totals:	$215,586	$155,305	$171,870	$197,700	$740,461
3. Short Term Technical Assistance (8 trips/year, 120 days)					$0
Salaries	$36,800	$48,400	$40,200	$42,000	$167,400
Travel					$0
Air Fare	$30,400	$16,800	$18,200	$20,200	$85,600
Per Diem	$14,520	$16,000	$17,800	$19,400	$67,720
Totals:	$81,720	$81,200	$76,200	$81,600	$320,720
4. Other Direct Costs	$1,500	$1,650	$2,815	$1,996	$7,961
5. Indirect Costs:	$82,354	$66,376	$71,535	$87,170	$307,436
6. Commodities and Equipment, Health Information Systems					
Computers	$30,000	$20,000	$0	$0	$50,000
Vehicles	$35,000				$35,000
Materials/Supplies	$10,000	$10,000	$10,000	$10,000	$40,000
Reference Materials	$5,000	$5,000	$5,000	$5,000	$20,000
Operations Research	$10,000	$10,000	$10,000	$10,000	$40,000
	$90,000	$45,000	$25,000	$25,000	$185,000
7. Commodities and Equipment, Laboratory Support					
Vehicles	$35,000				$35,000
Reegents: HIV	$65,000	$100,000	$125,000	$150,000	$440,000

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Reagents, Other	$50,000	$50,000	$75,000	$75,000	$250,000
Equipment	$136,000	$82,000	$101,000	$0	$319,000
	$286,000	$232,000	$301,000	$225,000	$1,044,000

8. Participant Training
Short Courses @ $10,000/3 wks

	$60,000	$60,000	$30,000	$30,000	$180,000

9. Support to Noguchi Memorial Institute for Medical Research

	$50,000	$50,000	$50,000	$50,000	$200,000
Total Dollar Cost:	$830,306	$626,155	$638,585	$593,596	$2,688,642

Local Currency Costs:

ESTABLISHMENT COSTS

1. Office Furniture	$3,300				$3,300
2. Office Machines	$4,700				$4,700
Total:	$8,000				$8,000

OPERATING COSTS

1. Vehicle Operation and Maintenance					
Petrol	$1,400	$1,500	$1,600	$2,000	$6,500
Maintenance	$1,400	$1,600	$1,800	$2,000	$6,800
Insurance	$330	$375	$400	$440	$1,545
					$0
2. Office Space					$0
Rent	$13,200	$14,500	$15,000	$15,500	$58,200
Utilities	$3,300	$3,600	$4,000	$4,400	$15,300
Maintenance	$550	$600	$650	$700	$2,500
					$0
3. Office Supplies	$1,650	$1,800	$2,000	$2,200	$7,650
					$0
4. Off. Equip. Maint.	$2,000	$2,200	$2,400	$2,600	$9,200
					$0
5. Local Travel	$2,000	$2,000	$2,000	$2,000	$8,000
Total:	$25,830	$28,175	$29,850	$31,840	$115,695
Total Local Currency:	$33,830	$28,175	$29,850	$31,840	$123,695

A.I.D. Costs:

Evaluations:		$60,000		$100,000	$160,000

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GOVERNMENT OF GHANA CONTRIBUTIONS:

Capital Costs:	1	2	3	4	Total:
4 Laboratory Buildings:	$200,567				$200,567
Rehabilitation:	$300,000	$100,000	$92,000		$492,000

Recurrent Expenses:					
Salaries:	$96,000	$105,901	$116,491	$128,140	$446,532
Maintenance	$24,000	$26,400	$29,040	$31,944	$111,384
Vehicle Running:	$1,725	$1,900	$2,090	$2,300	$8,015
times 5	$8,625	$9,500	$10,450	$11,500	$40,075
	$629,192	$241,801	$247,981	$171,584	$1,290,558

Recurrent Expenses

Year: 5	6	7	8	9	10
$140,954	$155,049	$170,554	$187,610	$206,371	$227,008
$35,138	$38,652	$42,517	$46,769	$51,446	$56,590
$2,046	$2,251	$2,476	$2,723	$2,996	$3,295
$10,230	$11,253	$12,378	$13,616	$14,978	$16,476
$188,368	$207,205	$227,925	$250,718	$275,790	$303,369

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ANNEX K

INITIAL ENVIRONMENTAL EXAMINATION

Project Country: Ghana

Project Title: Supplement to the Ghana Family Planning and Health Project.

Assistance to the Ghana National AIDS Control Program.

(641-0118)

Funding: $5,000,000 FYs 1991-1995.

IEE Prepared by: Janet Schulman
Project Development Officer
REDSO/WCA

Environmental Action Recommended: Categorical Exclusion.

Positive Determination_____

Negative Determination_____

Categorical Exclusion_____X_____

Deferral _____

Categorical Exclusion:

The activities described in this project meet the criteria for Categorical Exclusion in accordance with 22 CFR 261.2 (c) (2) (viii) and is excluded from future review because:

The activities to be undertaken will reduce the spread of HIV/AIDS. This will be achieved through: (1) Information, Education and Communication; (2) Laboratory Support; (3) Health Information Systems; and (4) Raising the cognizance level of policy makers in Ghana. A.I.D. will make available technical assistance to improve management and service, training of all levels of health care providers; procurement and use of commodities such as condoms, and reagents; procurement of vehicles, laboratory equipment and

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Project Country: Ghana

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Environmental Action Recommended: Categorical Exclusion.

Positive Determination_____

Negative Determination_____

Categorical Exclusion____X____

Deferral _____

Categorical Exclusion:

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The activities to be undertaken will reduce the spread of HIV/AIDS. This will be achieved through: (1) Information, Education and Communication; (2) Laboratory Support; (3) Health Information Systems; and (4) Raising the cognizance level of policy makers in Ghana. A.I.D. will make available technical assistance to improve management and service, training of all levels of health care providers; procurement and use of commodities such as condoms, and reagents; procurement of vehicles, laboratory equipment and

computers and renovation of existing laboratories. The project has no component which would directly affect the environment (such as construction of roads, water supply system, waste water treatment spraying with insecticides etc).

Approved: _____

Disapproved: _____

Date: _____

Concurrence: _____
Africa Bureau Env. Officer

Clearance: _____
AFR/GC