

PD BA L 481

OFFICIAL PROJECT  
DOCUMENT

BUREAU FOR AFRICA  
ZAIRE

SCHOOL OF PUBLIC HEALTH

PROJECT NUMBER: 660-0101

Action Memorandum

PAF II

PROJECT PAPER

ACTION MEMORANDUM

Date : August 28, 1984  
To : Arthur S. Lezin, Acting Mission Director  
From : Jose A. Rivera, Asst. Program Officer  
Subject : School of Public Health (660-0101)

Problem: Your approval is required for a grant of \$8,315,000 from the Health, and Population appropriation, to the Government of Zaire (GOZ) for the School of Public Health (Project No. 660-0101), subject to the availability of funds in accordance with the A.I.D. OYB/allotment process. We intend to obligate \$2,249,000 in Fiscal Year 1984.

The Project Paper providing full background, plans, and necessary analyses was approved by you on August 28, 1984.

Recommendation: That you sign the attached Project Authorization and hereby authorize a grant of \$8,315,000 for the School of Public Health Project, of which we are planning to obligate \$2,249,000 in Fiscal Year 1984.

Clearance:

PHO:RThornton:

CONT:RKing:

DEO:LBraddock:

Date: August 28, 1984

Date: August 28, 1984

Date: August 28, 1984

PROJECT AUTHORIZATION

Name of Country: Zaire

Project Name: School of Public Health

August 28, 1984

Project Number: 660-0101

1. Pursuant to the Foreign Assistance Act of 1961, as amended, I hereby authorize the School of Public Health Project with the Government of Zaire (GOZ). The project involves planned obligations not to exceed \$8,315,000 over the life of project, subject to the availability of funds in accordance with the A.I.D. OYR/allotment process.

2. The project will help develop the University of Kinshasa (UNIKIN) Faculty of Medicine's Department of Public Health into an independent and fully accredited School of Public Health with the UNIKIN system.

3. Source and Origin of Goods and Service

Goods and services, except for ocean shipping, financed by AID under the Project shall have their source and origin in the United States except as AID may otherwise agree in writing.

Ocean shipping financed by AID under the Project shall, except as AID may otherwise agree in writing, be financed only on flag vessels of the United States or the Republic of Zaire.

4. Covenants

The grantee shall covenant:

- a. to establish a full and independent School of Public Health within the University of Kinshasa system by December 31, 1988.
- b. to establish a separate line item for this school in the Executive Council budget.
- c. to make the entire nursing school building, including all of its annexes, near the University Clinics on Mount Amba available to the new School of Public Health.

5. The Project Assistance Completion Date (PACD) of this project is July 30, 1994.

  
\_\_\_\_\_  
Arthur S. Levin  
Acting Director

## SCHOOL OF PUBLIC HEALTH

### INTRODUCTION

This project, which will create the School of Public Health of the University of Kinshasa, is the capstone of USAID/GOZ collaboration in the health sector. This collaboration has blazed new trails in health development cooperation and has placed USAID in the vanguard of the lead donors to health development in Zaire.

USAID's rural health strategy is grounded in the Basic Rural Health Project (660-0086), which works principally through non-governmental health facilities to promote sustainable outreach services. That project is complemented by the Family Planning Services Project (660-0094), which promotes and supports extension of family planning service, and the CCCD Project (698-0421). The CCCD project is being pioneered in Zaire, and will play a vital supporting role in the expansion of integrated health delivery in Zaire. Another important supporting role is played by the Area Nutrition Improvement Project (660-0079), which is extending the outreach of the fledgling National Nutrition Planning Institute to embrace a major rural region.

All these programs, as vital and initially successful as they have been, will have limited impact without the School of Public Health. The school is the key to sustaining the momentum in low-cost preventive medicine and health care service extension. It is the School of Public Health that will, in effect, eventually replace USAID and other donors in the role of guiding and stimulating health sector development.

As a discrete project, the School of Public Health is attractive enough. It offers Zaire a cost-effective means of training health professionals. It forms an integral part of Zaire's development of the institutional and human resource capacities which are the sine qua non for long-term, permanent progress in health development.

<b>AGENCY FOR INTERNATIONAL DEVELOPMENT</b> <b>PROJECT DATA SHEET</b>	<b>1. TRANSACTION CODE</b> <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete Amer.-Inent Number _____	<b>DOCUMENT CODE</b> 3
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<b>2. COUNTRY/ENTITY</b> Zaire	<b>3. PROJECT NUMBER</b> 660-0101
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<b>4. BUREAU/OFFICE</b> AFR <span style="margin-left: 100px;">06</span>	<b>5. PROJECT TITLE (maximum 40 characters)</b> School of Public Health
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<b>6. PROJECT ASSISTANCE COMPLETION DATE (PACD)</b> MM DD YY 07 30 94	<b>7. ESTIMATED DATE OF OBLIGATION</b> (Under "B." below, enter 1, 2, 3, or 4) A. Initial FY <u>84</u> B. Quarter <u>4</u> C. Final FY <u>89</u>
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8. COSTS (\$000 OR EQUIVALENT \$1 = )						
A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	2249		2249	8315		8315
(Grant)	( 2249 )		( 2249 )	( 8315 )		( 8315 )
(Loan)						
Other U.S. 1.						
Other U.S. 2.						
Host Country		1263	1263		3231	3231
Other Donor(s)						
<b>TOTALS</b>	2249	1263	3512	8315	3231	11546

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPRO- PRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) HE	580	500				6215		6215	
(2) PN	400	460				2100		2100	
(3)									
(4)									
<b>TOTALS</b>						8315		8315	

<b>10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)</b>	<b>11. SECONDARY PURPOSE CODE</b>
660      530	660

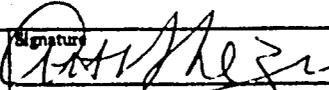
<b>12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)</b>			
A. Code	BU	TNG	BR
B. Amount			

**13. PROJECT PURPOSE (maximum 480 characters)**

To develop the University of Kinshasa (UNIKIN) Faculty of Medecine's Department of Public Health into an independent and fully accredited School of Public Health within the UNIKIN system.

<b>14. SCHEDULED EVALUATIONS</b> Interim MM YY   MM YY   Final MM YY 08 87   04 90   08 94	<b>15. SOURCE/ORIGIN OF GOODS AND SERVICES</b> <input checked="" type="checkbox"/> 000 <input type="checkbox"/> 941 <input type="checkbox"/> Local <input type="checkbox"/> Other (Specify) _____
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**16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a \_\_\_\_\_ page PP Amendment.)**

<b>17. APPROVED BY</b>	Signature:  Title: Arthur S. Lezin Acting Director	<b>18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W AMENDMENTS, DATE OF DISTRIBUTION</b> Date Signed: MM DD YY 08 28 89	MM DD YY 
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SCHOOL OF PUBLIC HEALTH  
PROJECT 660-0101

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I. Summary

A. Data Sheet

Country: Zaire

Project Title: School of Public Health

Project Number: 660-0101

Project Termination Date: 30 July, 1994

First Financial Obligation: 1984

<u>Estimated Costs</u>	<u>First Year</u>	<u>Life of Project</u>
USG (USAID)	\$2,249,000	\$ 8,315,000
GOZ (Ordinary Budget, In Kind and Counterpart Funds)	\$1,263,000	\$ 3,231,000
Total	\$3,512,000	\$11,546,000

Project Purpose: To develop the University of Kinshasa's (UNIKIN) Public Health Department into an independent and fully accredited School of Public Health within the UNIKIN system

Estimated Date for Signature of Project Agreement: June 1984

Estimated Date for Initiation of Project Activities : October 1984

Estimated Date for Initiation of First Full Class for Certificate in Public Health Training at UNIKIN : October 1985

Interim Evaluation : August 1987

Interim Evaluation : April 1990

Interim Evaluation : August 1994

## B. Glossary

- GOZ - Government of Zaire
- USAID - United States Agency for International Development
- PID - Project Identification Document or "Avant Projet"
- PP - Project Paper
- CCCD - Combatting Childhood Communicable Diseases
- SPH - School of Public Health (UNIKIN)
- CSPH - Collaborating/Contracting School of Public Health (U.S.)
- IOP - Life of Project
- PMCU - Project Management Coordination Unit
- UNIKIN - University of Kinshasa
- DHESR - Department of Higher Education and Scientific Research
- DPH (M) - Department of Public Health (Ministry)
- DPH (U) - Department of Public Health (University)
- PCA (Z) - Project Council of Associates (Zaire)
- PRC (U.S.) - Project Review Committee (United States)
- PVO - Private Voluntary Organization
- MPH - Master of Public Health
- WHO - World Health Organization
- MPR - Mouvement Populaire de la Revolution

**Certificate in Public Health** - Upon successful completion of the one year full-time program of study at the UNIKIN School of Public Health participants will receive a Certificate in Public Health from UNIKIN. The level, content, and intensity of the program leading to this degree will be equivalent to that found in Masters of Public Health Degree programs in the United States.

**Accredited** - For the purposes of this document "accredited" refers to: (1) the recognition, within the Zairian University system, of the School of Public Health as a degree-granting institution of the University of Kinshasa, with the same status as the Medical School, Law School, etc., and (2) the recognition of the one year program leading to a Certificate in Public Health as being equivalent in content and intensity to most MPH programs in the United States.

## C. Summary Outline of the Project

### 1. Introduction

This project has evolved out of discussions between the University of Kinshasa, the Department of Higher Education and Scientific Research, the Department of Public Health, the Eglise du Christ au Zaire and various other actors in the health sector.

The concept of the project was first raised several years ago by the former Rector of the University, Reverend Hein. He foresaw the need for a unified system to train higher level health professionals in country as well as the need for a regional institution that would offer this training to neighboring Francophone countries. Subsequent to this, the Basic Rural Health Project (660-0086) and the University's Department of Public Health in the Medical School collaborated in offering short term in-service courses for Rural Health Zone participants. While this collaboration worked well, the process demonstrated that the training needs for a country as vast and populous as Zaire could not be met by annual ad hoc training during the University's summer vacation.

After a series of meetings in 1982, the University, the Department of Higher Education and Scientific Research, the Department of Public Health, and USAID prepared a Project Identification Document. This document was finalized in June 1983, and received favorable reviews from the GOZ and AID/W. Subsequently, the Department of Higher Education and Scientific Research invited a team of three professors from various schools of public health in the United States to assist the GOZ and USAID with the preparation of the Project Paper, the final project document. The American-Zairian team worked through November-December 1983 and the present document is the final product of their work.

### 2. Brief Project Description

This project responds to the need to train large numbers of public health professionals to implement the GOZ's planned expansion of primary health care, in urban and rural areas. The GOZ commitment to primary health care has been well detailed in a series of proclamations, policy papers and National Plans. These include decision No. 10/00/81 of the Central Committee of the MPR and the Plan d'Action Sanitaire 1982-86.

The personnel trained under this project by the School of Public Health will lead the fight against the high rates of infectious disease, malnutrition and poor maternal and child health.

The need to create a School of Public Health in Zaire at this time stems from two considerations. One is the fact that foreign schools are unable to provide the best training or preparation for working in the sub-Saharan health environment. The second is that the institutions in Francophone sub-Saharan Africa capable of providing appropriate training (WHO Public Health Training Center-Lome and University of Cotonou) cannot train more than one or two students per year from each country. Zaire's needs are much greater than this. The current five-year National Health Plan emphasizes

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primary health care and disease prevention, which in turn implies a need for personnel with a background in Public Health. By the end of the century the country will be divided into approximately 250 health zones, each of which will be staffed by one or more doctors and a number of nurses. Any of these individuals would benefit from training at the School of Public Health. Sub-regional, regional and national health officials are also prime candidates for this training. From the categories outlined above one can quickly arrive at a total of 750 potential trainees, if not more. At the proposed levels of training for the SPH (about 30 Certificate in Public Health graduates per year) there is clearly no danger of "flooding the market". There should be no lack of positions for the School's graduates in the foreseeable future.

Professional health sector personnel must be able to apply modern management, technical, and training methods to health programs in Zaire. The Certificate in Public Health program will integrate management and administrative skills with field experience and technical skills such as statistics, epidemiology, survey techniques and problem analysis, thus unifying the different areas of health planning and services. Students graduating from this program will be capable of designing, implementing, administering and evaluating the kinds of innovative and efficient public health programs essential for making real gains in the sector's development. This Certificate program will be versatile, flexible, and thorough in order to give all the background necessary for establishing and maintaining viable health care systems. Without a core of truly professional cadre, of the sort that a School of Public Health can produce, Zaire's public health sector will never enjoy sustained, coherent development of the best health services within the potential of the society support. Hence the School of Public Health to be developed by this project provides the keystone for comprehensive and coordinated national public health development. It will both set the direction of public health development and provide the capacity to manage that development. The new School of Public Health will concentrate on problems and opportunities presented in rural and urban communities. Students will go into the field in the School's training areas and make direct observations, collect data, and work through solutions with the local communities.

The project will be implemented by the Department of Higher Education and Scientific Research through the University of Kinshasa (UNIKIN). It will build upon current programs in the Medical School and its Department of Public Health. The University of Kinshasa (UNIKIN) and a U.S. contracting university with an accredited School of Public Health will be the principal implementing institutions. The U. S. university will assist Zairians in Kinshasa and in the U.S.A. to obtain the knowledge and experience needed to plan and operate a high quality, independent, self-sustaining School of Public Health. The project will establish long term institutional linkages between the two universities and will provide long and short term professional training to Zairian faculty and senior health officials. During the first five years the project will establish a core masters level program in public health, completion of which will result in the conferral of a Certificate in PH, as well as a variety of intensive short courses adapted to the needs of Zairian health service agencies. By the end of the project the School should have the capacity to train the teachers that it will need in future years.

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The School of Public Health is intended to be a separate and independent entity within UNIKIN by the end of the project. The School will be at the same level as the School of Medicine, Pharmacy, etc. It would remain responsible for teaching courses currently provided by the Department of Public Health in the Medical School. Thus, the SPH would have two functions; the new larger portion of public health training and a smaller section for teaching preventive medicine to medical students and other undergraduates. For the latter, curriculum and teaching programs would be developed jointly with individual departments in the School of Medicine. The proposed School of Public Health will initially be administratively attached to the University of Kinshasa's Department of Public Health in the Faculty of Medicine. At an appropriate time but not later than December 31, 1988, the School will be made fully independent with the same status of the other schools in the UNIKIN system.

With project assistance, the SPH faculty will be built up from the four full time professionals presently in the Department to about 14 equivalents by year four of the project and to approximately 21 by the end of the project. Administrative and other staff will also be increased to support academic, logistical and maintenance activities. The core faculty of the current Department of Public Health will be supplemented by part-time professionals from other schools and departments to arrive at the number of full time equivalents noted above.

To help develop the SPH during the ten-year LOP, the OZ and USAID will contract with a school of public health in the U.S. to coordinate external support activities and to furnish long and short-term advisors. They will fill gaps in the current staff until new individuals are trained and return to assume faculty positions. During the first year of school operations these faculty members will be supplemented by four U.S. technical advisors. They will be current or past faculty members of schools of public healths in the United States. The technical advisors will be fluent in French, and will have experience in Africa, preferably Zaire. They will be senior public health professionals in the fields of Public Health Administration, Biostatistics and Epidemiology, Maternal Child Health and Family Planning and Behavioral Science/Health Education. These individuals will have at least five years of Graduate Public Health teaching experience and the senior advisor should, in addition, be a full professor and have administrative experience at the departmental chairman level. These individuals will be responsible for designing curriculum, teaching classes, and developing the facilities for the School of Public Health in collaboration with their Zairian counterparts. It is important to note here that the contracting U. S. university needs to provide a legitimacy which goes beyond the provision of appropriate technically qualified individuals. The institutional linkages between the U. S. university and its Zairian counterpart will do much to legitimize the end product, the graduate. This graduate must be clearly perceived as having undergone a high quality training program.

Of particular importance will be the capability and experience of the contracting U. S. university faculty in developing research and teaching capacity within the school that can generate revenue for the SPH. This will require close collaboration with Zairian counterpart professors and

professors-in-training. International exposure through joint publications and meetings will be a necessary component of the activity.

In support of the Administrative Office of the SPH, there will be a Council of Associates, representing the major national agencies and institutions both governmental and non-governmental. The primary function of members would be to act as liaison between SPH and their respective agencies for mutual exchange of information, discussion of needs and coordination of plans and activities.

At the end of five years the School's programs will diversify to cover major sub-specialties within public health and will have the resources to establish a degree program for undergraduates. Throughout the ten years, the School will also teach public health to students enrolled in schools of medicine, pharmacy and nursing. At the end of the five year period, the School will have 14 full-time faculty equivalents capable of producing a minimum of 30 graduates per year from the Certificate program, at an academic level equal to United States standards. Short-term training is programmed at the level of about 60 persons per year. Particular emphasis will be directed towards curriculum and faculty development in infectious disease, environmental health and sanitation, family planning, nutrition, health behaviors and program administration as well as the traditional basic sciences of public health. The Zairian and expatriate faculty will collaborate in the development of educational materials in each of these fields to reflect local health conditions and organizational settings.

To achieve training and part of its research objectives the School, in cooperation with the Department of Public Health (Ministry), will establish two field training/applied research sites. One will be within the city of Kinshasa and the other in a rural zone about two hours away with easy access to Kinshasa. The Department of Public Health (Ministry) will also collaborate on many other project activities including the selection of candidates for training, curriculum design, field training and research.

The first year of the project will focus on the development of a detailed implementation plan, faculty training, curriculum development, the procurement of vehicles and other equipment, and building renovation. This will be followed by four years of direct full time technical assistance followed by five additional years of support on a small scale. The ten year institutional linkage is recommended in order to insure follow-up training, research, project evaluations and legitimacy for the school's programs.

At the end of the project the following purposes and outputs will have been accomplished:

1. A fully independent and accredited School of Public Health established and operating at UNIKIN serving Zairian and other central African students.
2. Development of a series of long - and short-term programs for undergraduates and graduates.
3. A public health library/resource center established.

4. Creation of two field training/research centers.
5. Establishment of an applied research program adapted to health problems of Zaire and other central African countries.
6. Renovation of the nursing/allied health building at UNIKIN campus.
7. Establishment of a public health laboratory.

D. Cost Estimates and Financial Summary

The first five years of the project, including allowance for contingencies and inflation, will cost approximately 9 million dollars. This does not include in-kind contributions. The GOZ is contributing a building for the school with an estimated value of one million dollars, and offices and laboratory equipment worth about \$150,000. The total cost in foreign exchange (years 1-5) is \$6,844,000 dollars. Local currency costs are Z12,000,000 from the GOZ Ordinary Budget and Z33,500,000 from GOZ-AID counterpart funds for a total of Z45,500,000.

Table 1 summarizes the cost estimates by category and Table 2 shows the financial plan over five years. Foreign exchange expenditures are approximately \$2,300,000 during the first year and \$700,000 in year five. The expenditure of U. S. dollar funds is greatest during the first two years when commodities are purchased and when technical assistance is at its highest level. During this period expatriates will serve as full-time faculty members to replace Zairians in training and to assist in curriculum development, the establishment of a computer assisted, library resource center and the installation of library equipment.

The flow of GOZ-AID local currency funds is also greatest during the early years--almost 17.5 million zaires -- and is less than 4 million zaires during the project's fifth year. The flow of direct GOZ expenditures begins at a modest level (0.92 million Zaires) but increases to over 3.4 million zaires in year five.

Technical assistance and training are the largest line items in the budget and account for about 45 percent of the combined foreign exchange and local currency costs. Commodities which include vehicles, office and laboratory equipment, computers and books is the next largest category -- slightly over one million dollars which is about 11 percent of the combined FC and LC budget. Inflation and contingency costs are estimated to be about 2.5 million dollars.

Dollar expenditures over the life of the project will be used to pay for technical assistance, overseas training for Zairian and for commodities not available in Zaire. GOZ-AID local currency will be used to hire local staff to support the technical assistance team to support in-country training and applied research costs, and to purchase furniture and equipment for offices, dormitories, laboratories and the library. Local currency will pay

for the renovation of the school building and field training centers. GOZ-AID local currency will also cover the cost of fuel and maintenance for project vehicles.

Direct GOZ expenditures will support the Zairian faculty and staff which will expand rapidly as the project progresses. These personnel costs amount to over 9.2 million zaires and represent about 77 percent of the total GOZ direct expenditures during the first five years (about 12 million zaires total). GOZ funds will also pay for in-country training and during the final year of the project will cover 75 percent of student stipends/scholarships for long and short term training in Zaire.

#### Years 6-10

The total dollar cost for the final five years of the project (years 6-10) is almost 1.5 million dollars, most of which is for short-term technical assistance from the contracting university and additional overseas training for Zairian faculty in doctoral programs. Approximately 5.5 million zaires from GOZ-AID counterpart funds will also be needed during this period to pay for local project staff, books, laboratory and office supplies, and fuel for the vehicles. The GOZ is expected to continue its support of faculty and staff, all in-country training costs and other operating expenses of the school. The estimated GOZ direct cost of operating the school during years 6-10 is about 21 million zaires.

#### E. Waivers required

Waivers to purchase non-American products are foreseen for library and audio-visual products. Also a proprietary procurement waiver for four-wheel drive diesel jeeps will be necessary.

#### F. Conditions Precedent to Disbursement and Covenants

Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID:

A statement of the name of the person who will serve as the Ministry of Higher Education and Scientific Research's representative to the Project and full-time Project Director; a specimen signature of the person specified in such statement to interface with USAID, the University and the School of Public Health on project implementation activities and to authorize by signature expenditure of project funds.

The Cooperating Country shall covenant:

- to establish a full and independent School of Public Health within the University of Kinshasa system by December 31, 1988; to establish a separate line item in the GOZ budget for same.

- to make the entire nursing school building, including all of its annexes, near the University Clinics on Mount Amba available to the new School of Public; to effect this transfer at the earliest convenience of UNIKIN but not later than six months from the date of signature of the Project Agreement; and that responsibility for the relocation of the present occupants shall be that of UNIKIN.

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- to make available all other necessary budgetary and human resources needed in a timely fashion;

### G. Issues

During the preparation of the proposed project several major issues/concerns were raised. The general consensus of USAID/GOZ is that the following are the most important and have been the subject of close scrutiny by the design team.

#### 1. Sustainability

This issue is related to the GOZ capacity to underwrite the recurrent costs of the newly created School. First, project design addressed this issue by designing the project to build on and use the human and capital resources that are already in place and are likely to continue irrespective of the fortunes of the DHESR/UNIKIN budget. Secondly, the project detailed with as much precision as possible the planned annual recurrent costs by budget line item. Thirdly, the design team explored the feasibility of the GOZ coming up with the total annual recurrent costs of approximately Z5,000,000, plus about \$26,000 in hard currency. The team was satisfied that this level of increase can be borne by the GOZ. A more detailed discussion is presented in the Technical Sections, Financial Plan and Economic Analysis. Moreover the DHESR and UNIKIN have agreed to establish a separate line item in the budget for the SPH no later than fiscal year 1988.

#### 2. The Appropriateness of Training in Relation to the Needs of Zaire.

There was a consensus that the SPH be designed and charged with preparing mid - and high-level technicians for specific roles in implementing the GOZ health strategy as elaborated in the National Health Plan, 1982-86. In this connection the Department of Public Health, as the user of the end product, is particularly concerned with the establishment of the curriculum, field training and selection of candidates. The team noted these concerns and designed the project with a Project Council of Associates (PCA) involving agencies responsible for service provision. The project will also establish two field training centers in collaboration with the Department of Health (the major service provider). Each student will spend at least 10 percent of his time in the field training center. Here, the student will work with real life problems with the major ongoing programs of vaccination, family planning, nutrition education and provision of basic curative care.

#### 3. Relationships of SPH in Zaire

Several aspects of administrative relationships of the SPH in Zaire have been of concern to the PP team, including the precise structural position of the school in UNIKIN. Our strategy has been a two phased plan which begins to build on the current Department of Public Health in the School of Medicine, but explicitly states that a separate budgetary and operating unit is the ultimate goal. Difficulties were foreseen in pushing for the new structure immediately. The role of the contracting school of public health

will be crucial in solving some of these issues and may require USAID support during project implementation.

The role of the Department of Public Health (Ministry) is also a crucial one since it will be the primary user of SPH graduates. The Department will be closely and continually involved through the mechanism of membership on the project Council of Associates, participation in the selection and management of field training sites, and their selection and continued support of potential trainees. The function of co-ordinating input from the Ministry with school teaching activities will be an important and delicate one, and theoretically will result in that the absorption of DPH(M) problems and orientation into the training program will be possible.

4. The Capacity of a Single U.S. School of Public Health To Fulfill Contract Duties

Since it is possible that no one school of public health will be able to provide all of the personnel needed to implement the contract - particularly in view of the teaching responsibilities which require fluency in French, the successful bidder must include a plan for coordinating outside resources in its proposal. The requirement to find senior French-speaking advisors with African experience makes this a particularly important concern and the Requests for Proposals should emphasize this point.

5. Recruitment and Selection of Contracting U.S. University and SPH Faculty

It will be crucial for additions to the SPH faculty to maintain a reasonable balance of disciplines and interests during the process of development in order to eventually achieve a desirable spectrum. In every event, high calibre and personal commitment are sine qua non. It will take all the tact and energy of the contracting advisors to support such an outcome in the face of political pressures and other factors to the contrary. Close support by USAID/Zaire will be necessary.

6. Appropriateness of Training Provided to Meet Needs/Problems of Zaire's Health Sector

The characterization of the SPH is one not tied rigidly to existing concepts in graduate public health education, but innovative and ready to adapt to present and evolving needs in society. For example, considerable thought needs to be given as to how the SPH can contribute to the goal of providing the country with effective primary health care, develop training systems for the large number of lower level workers needed and, help develop a cadre for effective supervision. One element in the present Project Paper points in that direction - the adaptation of diagnostic tests for field use. Other problems merit comparable attention. Much will depend on the philosophy of the contracting university and on its success in assuring that the overseas PhD training of Zairians is relevant to their on-the-job needs at home. The Certificate in Public Health as an end product was decided upon as a result of the review of several factors. These included material to be covered and the length of time needed to cover it, the level of the average entering student, and the skills needed for the positions that terminating

students will hold. As stated in 2 above, the SPH is designed for the training of mid and high-level technicians. Those individuals entering the Certificate program will be health professionals seeking to complement their already-acquired knowledge and skills with a solid grasp of the concepts and practices of public health. This will put them in a much better position to implement Zaire's national health plan, in which public health is emphasized.

#### 7. The Research Capacity of the SPH

All parties agreed that research is an essential element of the proposed school. The Project Paper reflects this and a line item of the local currency equivalent of \$500,000 has been established for applied research in the field of primary health care.

#### 8. The IOP Cost

The AID/W PID review committee raised the concern that the proposed IOP costs presented on the PID were underestimated. This was confirmed by the PP design team. As a result, the IOP was expanded to ten years and the total cost raised to \$11,546,000. USAID's IOP share of this cost is \$8,315,000.

### II. Detailed Project Description

#### A. Project Background:

The GOZ's national development priorities include special emphasis on disease prevention and training of health personnel. This is in keeping with the World Health Organization's (WHO) goal of "Health for All by the Year 2000." It is also in recognition of the situation in Zaire, where malnutrition is considered to be a primary or associated cause of approximately sixty percent of Zaire's morbidity and mortality and where a high percentage of liveborn infants do not survive the first five years of life.

Severe shortages of appropriately trained health personnel effectively preclude rapid extension of the health care delivery system. Large increments of trained personnel are needed to staff key positions. These include regional and zonal public health officers, directors of health planning, management and evaluation units, and trainers for a large cadre of local workers and their supervisors for primary health care. The establishment of a School of Public Health (SPH) in Zaire will respond to the training needs of several new public health initiatives, such as the Basic Rural Health Project (SANRU), the Expanded Program of Immunization (EPI), the Program for Combatting Childhood Communicable Diseases (CCCD), the Centre National de Planification de Nutrition Humaine (CEPLANUT), the Family Planning Services Project, and the Urban Primary Health Care Project. A School of Public Health is critical to provide the trained manpower to expand these projects and to increase the effectiveness of Zaire's health care system. The present proposal for project assistance is in keeping with GOZ and USAID policy. The USAID policy has been expressed in the AID Policy Paper on Health Assistance (December 1982) and in the Africa Bureau Strategic Plan (May 6, 1982). The GOZ policy has been expressed in the decision Number 10/00/81 of the Central Committee and the Health Action Plan for 1982-86.

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In the past, French-speaking trainees have been sent from Zaire to schools in Lomé and Cotonou in Africa, Rennes in France, and to universities in Belgium, the United States and Great Britain. This training has been the subject of various criticisms including language constraints, expense, lack of focus on Zaire's situation, and inappropriateness to the needs of developing countries. In any case, the resources available to support such training abroad are not adequate to train the numbers of professional individuals needed to expand Zaire's primary health care system at the pace required to meet the national goal of "Health for All by the Year 2000".

In seeking a central locus for development of public health personnel, the Government of Zaire logically looked to the Department of Public Health, which has existed in the Faculty of Medicine at the University of Kinshasa (UNIKIN) since 1969. As a result, representatives from several of the major health care providers in Zaire began meeting with University personnel in charge of public health training to develop a training program. USAID/Zaire submitted the concept in its 1983 CDSS country plan and a team produced a PID which was approved in October 1983. The present document details the plan of implementation and technical analysis for the proposed institution.

#### B. Project Goal and Purpose

The goal of this project is to improve the effectiveness of health services in Zaire. The purpose of the project is to develop the UNIKIN Faculty of Medicine's Department of Public Health into an independent and fully accredited School of Public Health.

#### C. Description of Major Project Activities

The project purpose will be achieved through a combination of mutually reinforcing activities.

The major activities of the school will include:

1. Teaching
2. Research
3. Field Training
4. Consultation
5. Public Information
6. Service

Each of these is discussed below.

##### a. Teaching:

There will be a one-year Certificate program for physicians and other high level health professionals with a new class each year and a maximum of 24 students per class at the outset. The first Certificate in Public Health class will start in October 1985. The school will also teach students enrolled in other graduate and undergraduate programs and will probably establish an undergraduate degree program in public health after the fifth or sixth year.

The basis for selecting students will be the job to which the trainee is committed and assigned following graduation. In this way, the public health program will be directed towards meeting the manpower needs of the health sector and will not provide random training where graduates find little or no use for their acquired skills.

In the beginning, priority should be given to the training of individuals who will fill the following key positions:

1. The faculty of the School.
2. People who can influence policies on the administration and development of rural and urban health services in the Department of Public Health (Ministry) and in related non-governmental organizations.
3. Heads of key special units that exist or are being planned in the DPH (M), such as the planning cell, the national training unit, and the primary health care direction.

From the outset, the School will offer and conduct short-term courses, seminars and workshops. These will be planned to contribute to specific requirements in the DPH (M) or other public health plans in Zaire. Priority attention will be given to those key health personnel who can train others, thus maximizing the benefits of the School program. For some subjects, the participants will have multidisciplinary backgrounds. To further some types of program development, it may prove desirable for teams who work together in particular areas to be admitted and trained together.

A first teaching objective will be to give graduate physicians a "public health slant" to add to their clinical orientation. This will be done by integrating approaches such as maternal and child health into their program through separate obstetrics and pediatrics units; other approaches will include community, family and group epidemiology rather than person to person infectious disease transmission.

Secondly, central techniques in public health will be taught. These will include methods of measurement, epidemiologic investigation, administrative principles, community organization, public information, record systems, and cultural factors.

Beyond that, much of the teaching will be multidisciplinary and built around public health themes, problems, and community case histories, so that all techniques will be brought into play. Such a teaching program, while demanding on the faculty, is also valuable in keeping the faculty alert to new public health concepts and developments.

b. Research:

The School will be a unique locus in Zaire for competence in public health research. Such research should be of the applied type and oriented to provide public health organizations in Zaire a basis for choosing policy and organizational alternatives and approaches in public health.

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Research will be undertaken in cooperation and collaboration with the operating health service delivery agencies and in different parts of the country. The research designs should permit findings to become promptly available for feedback into the health service delivery system.

Some School faculty members will divide their time between teaching and research. Students will be exposed to, and participate in, the research. The autonomous status of the school will facilitate interdisciplinary and intersectoral research in cooperation with other branches of the University and with various types of agencies in fields such as economics, demography, family planning services and education.

c. Field Training Areas:

Scheduling for Students in the Certificate Program

Practical field experience under supervision and tied to classroom work will be heavily emphasized as a vital part of the Certificate curriculum. Each student will spend at least 10 percent of the academic year's days in field work. The Certificate class (24) will be divided into four groups of six persons each for visits to the field. Their personal work there will include both individual and group activities. Visits will be at least one full day in length and might involve overnight stay for four-day periods.

To permit this type of scheduling, the school year will reserve "block-time" (free from usual classroom scheduling) of one full week in every four throughout the school year. This block time for field training will permit both separate student group time and a plenary day every week for interchange among the groups and for common synthesis of the field experiences for the entire class. Block-time not used for the field training will be scheduled for activities related to other courses and to individual counseling, tutoring and special project work. Thirty-six days, or 18 percent of the year's total, will be occupied in this way.

The field training staff will not be involved with the Certificate students three weeks out of four and also one day of that fourth week. This permits ample time for the field training staff to participate in short-term courses that will be scheduled several times each year, and to receive individual visitors.

The geographic area

One of the two areas should be rural. Practicable one-day access from the SPH at all seasons of the year, is essential. Such proximity to Kinshasa should not, however, alter the essential rurality of the area to an excessive extent. It is expected that the health program will be well-developed and include all or most of the elements called for by COZ strategy. The picture presented to the students is not intended to be "average" for the country. It should be complete with high quality staff so the students can observe the positive results of effectively using standard amounts of resources and support. On the job after graduation, students should then be able to recognize deficiencies and feel motivated to correct them. In this sense, these are "demonstration" areas. Involving the area staffs in teaching makes them "demonstration-training" areas.

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It must be strongly stated that the areas are not primarily for research. Research that might be done there by the SPH in cooperation with the DPH(M) must not be "experimental" or "operations" research, during which departures from established procedures are made and tested for their impact. This would contaminate the demonstration utility of the area in terms of the procedures, the staff required and the predictability of achievements. It would confuse the students as to what they should be trying to do when they later assume their new responsibilities.

Also, these are not "pilot" areas. Research should be limited to observations and data collection - such as clinical studies, anthropological investigations, samplings of service data, community surveys - capitalizing on the likely higher than usual quality of records. Even such research should be carefully limited so as not to burden staff or interfere with service.

The clientele in each of the training areas should be large enough for students to observe the entire range of problems. The facilities should offer a range of services. The geography should be large enough to illustrate problems in transportation, communication, and different levels of administration. The usual array of official, PVO and community activities should exist, illustrating cooperative and multilateral relationships. In health services, there should be a local health centre and a program of outreach under supervision and reasonable access to a referral hospital.

A total population of about 10,000 persons would encompass about 2,000 women of child-bearing age, about 400 pregnancies per year, a similar number of newborns for early and first year care and correspondingly greater numbers of children in older age groups. An adequate number of households would be dispersed in different localities.

The facilities and services of the field training areas should be part of the national public health program, either under the DPH (M), a PVO or both. Existing administration will continue, but the SPH Field Training Coordinator will collaborate with the local representative of the administering agency in modifying routines as necessary to permit use of the significantly atypical service. For example, staff will be supplemented to absorb time needed for teaching, but not so as to increase service time beyond the standard. Arrangements will be made for both the operating agency and the SPH to receive data for their respective needs. SPH will supplement staff in the area, as indicated below. Consideration will be given to integration of the two staffs to the extent that their different functions permit, integration in service, teaching and research roles.

The field training areas will reach full functioning stage in the second year of the Project, so that time will be available to make improvements and fill gaps before then.

d. Consultation:

School faculty will be called upon to advise on public health matters when doing so will not jeopardize scheduled commitments, plans or duties. Any such activities in Zaire should be considered as within the role of the school in promotion of the country's public health.

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e. Public Information:

The School may sponsor and conduct conferences for dissemination of information or exchange of ideas (in addition to the short courses mentioned above). These conferences could be open to the general public or limited to particular categories of participants. The School may also issue printed reports and use other means for public education and information. Papers could also be published in scientific journals.

f. Service:

The School may be called upon to undertake administrative or other tasks beyond those required for its basic teaching and research roles. While rendering of selected services may be appropriate in some cases and help the faculty to see actual problems, generally the service burden must be kept within reasonable bounds if the school is to remain a place of learning and investigation.

D. Academic Program at the SPH

The program will be comprehensive and will include the following disciplines and fields of public health.

-Public health administration and management (includes the organization of health services, the management of training and research, program planning and evaluation);

-Maternal, child and reproductive health, nutrition and primary health care;

-Environmental sanitation (includes water supply and waste disposal systems);

-Epidemiology and infectious diseases;

-Health education, social and behavioral sciences, curriculum design and training methods;

-Library and other information resources (includes computer assisted information systems);

- Public health laboratories.

Heavy emphasis will be placed on administration and management, and on training methods in public health. Special attention will be given to the development and maintenance of a strong public health library. The broad design of the curriculum at the SPH will follow current concerns of WHO in areas such as primary health care, tropical diseases, nutrition, etc.. WHO has in the past sent faculty members as well as researchers and students to the University of Kinshasa and appears willing to provide this type of assistance to the proposed School of Public Health.

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A one-year course of study leading to a Certificate in Public Health degree will be started in October, 1985 and offered to approximately 24 students in each of the first two years and to about 30 in each of the fourth and fifth years of the Project. The course will consist of core subjects and electives drawn from the fields listed above.

Categories of trainees (Certificate training and short courses)

Nurses (having reached at least the Al "Graduat" level), physicians, pharmacists, dentists, veterinarians, epidemiologists, health educators, biostatisticians, research methodologists, health sociologists, administrators, political scientists, economists, planners.

Supportive elements

Library. Development of a strong central French language (and English as appropriate) public health library is a vital feature of the School. Field training resources. Two special geographic units, urban and rural, will be created under the School's responsibility by arrangement with the Ministry of Health.

Types of School offerings and activities

- Certificate in Public Health program (10 months or longer depending on thesis work)
- Short courses (1-2 months)
- Sponsoring and conducting conferences
- Field research
- Cooperation with DPH (M) in personnel development activities in different parts of the country.
- Participation with other institutions in and outside of Zaire in doctoral level programs
- Consultation services

Types of Job Placement of Graduates of Certificate Program

- Faculty of the School
- Positions in the DPH (M) and other public health programs in Zaire, including PVO programs
- Teaching and research positions in other institutions in Zaire
- National training system of DPH (M)

-Positions in general planning bodies, economic analysis agencies and the like.

In summary, the principal beneficiary-oriented activities of the project are:

1. The organization of an administrative framework to operate a School of Public Health.
2. The development of degree programs at the Certificate level and perhaps at the undergraduate level. This includes the design of curriculum and preparation of teaching materials relevant to health conditions and health care resources available in Zaire.
3. Short-term training programs for health professionals.
4. The establishment of a library resource center and a public health laboratory.
5. The creation of field training centers where students would receive practical training, inter alia, in management and research methods.
6. The establishment of an applied research program adapted to health problems and services found in Zaire.
7. Cooperation with: The DPH (M), individual PVO health service agencies, international health organizations and training institutions. Areas of cooperation will include the selection of students, program development, technical assistance, funding and research.
8. The renovation of the nursing/allied health building at the UNKIN campus to provide classroom, laboratory, library, office and dormitory facilities for the SPH.

Admission priority will be given to personnel in key positions in the National Public Health System. This would include discussions of central planning and administration, training for primary health care, evaluation of health services, and administration of health zones. The SPH will continue to teach public health courses to students in other academic programs such as medicine, nursing and pharmacy.

The SPH will establish two field training sites: One an urban field training area in Kinshasa, the other a rural site about two hours' drive from Kinshasa. Certificate students will spend a minimum of 10% of total school time in connection with field training, working in groups of about six persons. Some students will spend an additional 6-8 weeks in field research activities under the supervision of faculty members.

The SPH will also offer two or three short courses or seminars each year. These will begin in the first year of the Project and will be directed to persons not enrolled in the Certificate program. Such courses will last from

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one to two months and will have classes of about 20 persons. The field training areas will also be utilized for the courses. Topics for the courses will be selected to dovetail with evolving plans and needs of health services in Zaire. For both the Certificate program and the short courses, the content and approaches would be tailored to fit the country's situation.

At the end of five years the school will have the administrative staff, faculty and facilities to operate a basic core of graduate and undergraduate programs and conduct applied research. Assistance to the school during years 6-10 is programmed to strengthen and expand teaching and research activities. USAID contributions during the final years will be used primarily to assist the development of advanced curriculum and applied research.

The assistance will include short term advisors from the States as well as Zairian faculty going abroad for additional advanced training. This counterpart institutional concept (i.e. the contracting U.S. SPH and the UNIKIN SPH) will include an individual at the U. S. school of public health to respond to requests for bibliographic, laboratory and other research materials that are difficult to acquire in Zaire. In this way the Zairian institution will have the resources of the U.S. university at its disposal. These "sister" institutions would collaborate in public health research in Zaire and possibly in other less developed countries. This approach requires a commitment of the counterpart university to support a continual international presence and tie with the Zairian school in order to establish a stable, self-sufficient, internationally recognized institution.

#### E. Project Outputs:

The contracting U. S. school of public health will help coordinate training abroad of Zairians committed to return to work in the SPH. Both schools will participate in decisions on priority fields, places and duration of study, and selection of candidates. The respective institutions in the U. S., and perhaps in Francophone countries where study would take place, would be responsible for academic and qualifying aspects. However, the contracting U. S. school of public health will assist those institutions to plan classroom and research programs adapted to the needs of Zairian students.

This project will realize a series of specific outputs that will contribute to the realization of the project purpose.

1. The selection and organization of long - and short-term training abroad for planned faculty members for the new SPH. This training is programmed at the following levels for LOP.

Long-term training abroad - numbers of participants and duration of training to be determined in detailed implementation plan which will be prepared within 90 days of the arrival of the U.S. contracting university's technical assistance team.

At least six of the participants will be trained at the Ph.D. level and will be selected from the pool of existing and new faculty with MPH degrees.

Short-term training abroad (U.S.A., Europe and Africa). Numbers of participants and total months.

<u>1st yr</u>	<u>2nd yr</u>	<u>3rd yr</u>	<u>4th yr</u>	<u>5th yr</u>	<u>Years 6-10</u>	<u>Total</u>
5/19 m.	6/18 m.	6/16 m.	6/16 m.	5/14 m.	15/45 m.	43/123 m.

2. During the first year of project implementation, short term training will begin and continue as an important part of the school's function. This will combine a needed training resource in the Zairian context with a teaching laboratory within which Certificate students could work. Short term training is scheduled roughly as follows.

Short-term training at the School in Kinshasa: Numbers of participants.

<u>1st yr</u>	<u>2nd yr</u>	<u>3rd yr</u>	<u>4th yr</u>	<u>5th yr</u>	<u>Years 6-10</u>	<u>Total</u>
40	40	60	60	60	300	560

The core of the training program at the SPH will be the long term Certificate in Public Health training. Starting in the second project year these outputs will be as follows.

Long-term Certificate training at the new School in Kinshasa: Number of students.

<u>1st yr</u>	<u>2nd yr</u>	<u>3rd yr</u>	<u>4th yr</u>	<u>5th yr</u>	<u>Years 6-10</u>	<u>Total</u>
0	24	24	30	30	150	258

3. The project outputs will be more long term and include the establishment of the new SPH as a viable self-supporting institution within the Zairian environment and subsequently improving levels of public health research and planning. A more abstract output will be the creation of a critical mass of public health professionals who will serve to stimulate a more preventive and public health orientation to national health problems.

4. Training of Undergraduates

The Department of Public Health (U) in the Medical School currently teaches courses taken by students in medicine, nursing, pharmacy, etc.. The new School of Public Health will continue to provide this component of health training to physicians and nurses and will expand the number of courses available to these and other students.

The number of undergraduates enrolled in these courses per year should be as follows:

<u>1st yr</u>	<u>2nd yr</u>	<u>3rd yr</u>	<u>4th yr</u>	<u>5th yr</u>	<u>Years 6-10</u>	<u>Total</u>
150	180	200	220	240	1300	2290

In addition, the School will consider the possibility of establishing a regular undergraduate degree program in public health. A detailed description of this program (if judged feasible and desirable) should be produced by the end the year four and begun in year five or six. The school could train from 20 to 40 undergraduates in a degree program by the end of year 10.

5. Research Component

An important output of the School will be the development of a public health research unit capable of carrying out high level applied and operational research in Zaire. A significant portion of the input of the technical advisors during the first two years will be to establish and sustain a data processing and analysis unit, a computer assisted bibliographic and reference system supporting laboratory facilities. These data processing units will also play an important part in continuing cost management for the SPH.

Members of the technical assistance team will assist the Zairian faculty and research/evaluation staff of health service agencies to design and implement applied studies. These activities will be integrated into the teaching programs and field training components. In addition, most of the faculty and trainees will be expected to carry out applied research when examinations are completed. Some topics which merit priority are:

- Teaching Programs (i.e. multidisciplinary teaching, pedagogical methods, curriculum evaluations);
- Impact evaluations of primary health care programs in rural areas;
- Health manpower surveys;
- Traditional medical systems and practitioners in Zaire;
- Health information systems and;
- The organization of health services.

The grant will include US \$500,000 for the impact evaluation of selected rural zones in the Sanru 86 project. Specific zones will be selected by the University in collaboration with the DPH (M), ECZ and SANRU project staff.

F. Project Inputs

1. Technical Assistance/Faculty

USAID: Long term technical assistance in the form of experienced public health professors will provide expertise until Zairian personnel can be trained to an appropriate level. Short term advisors will be contracted to provide expertise in areas such as library development, laboratory construction and design and audio visual teaching techniques. Total numbers of visiting faculty are set at the following levels by year.

Contract visiting faculty advisors - long-term

Number of person - years

1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	Total
4	3	2	2	1	12

Contract visiting faculty advisors - short-term

Number of person - months

1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	6-10	TOTAL
31	20	15	10	10	30	116

GOZ: GOZ financed inputs include faculty members who will conduct long and short term training programs. This will include support for 5 1/2 positions in the first year and will increase to 14 by year three and to 21 by year 10.

Number of Full Time Faculty Positions  
Support by GOZ Funds

1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	10th Yr.
5 1/2	9 1/2	14	14	14	21

WHO: WHO will be asked to provide at least one full time professor in environmental sanitation in year one and on a half-time basis in year two.

2. Support Personnel

GOZ-USAID counterpart funds will be used to pay salaries of administrative and secretarial support to staff the Project Management-Coordination Unit. The unit will be staffed by seven full time

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employees and some part time help. The unit staff will include a senior level administrator, several secretaries including one who is bilingual, translators, consultants, drivers and a few research assistants.

The GOZ will provide administrative staff, secretaries, drivers and maintenance personnel to support the faculty and to run the school cafeteria, classrooms, office, laboratory and dormitory facilities.

The GOZ will support four full time staff positions in year one and this will increase to about 21 by year five. Most of the increase is for secretarial help, and personnel to run the cafeteria and maintain the physical facilities. A more detailed discussion of personnel is found under Administrative Arrangements of Section III, Implementation Plan.

Support Staff for the School

	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	10th Yr.
Administrative/ Secretarial						
Drivers	2	6	7	8	8	9
Maintenance/ Cafeteria	2	10	10	11	13	14
TOTAL	4	16	17	19	21	23

A large portion of these personnel increases can be met by the reassignment of individuals in university and other government jobs. Other GOZ inputs include staff at field training sites. These can be filled by part-time use of individuals at the health facilities and from the School's faculty.

3. Facilities

The University has a large four story building near the University Clinic which is presently used as a dormitory-classroom complex for the schools of nursing and allied health. Only one floor is presently in use. The University has agreed to make the entire building available for the School of Public Health. This building will provide classrooms, dormitories, a library facility, administrative offices and an auditorium for the SPH.

In the two field training areas, students will have access to health centers, referral hospitals and community outreach programs. Residence accommodations or equivalent arrangements will be made for field training locations. All of these facilities will need to be refurbished using USAID/Zaire counterpart funds. No new construction is currently programmed but major renovations will be made on the entire building and smaller facilities at the field sites.

4. Commodity Support

In summary, commodity support comprises:

- 8 four-wheel drive vehicles

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- library books, journals
- Microcomputer systems and supplies
- Laboratory equipment and supplies
- Office and classroom equipment and supplies
- Furniture/equipment for dormitories

A detailed list of appropriate laboratory equipment and supplies is included in the technical analyses section and describes the materials needed to set up the laboratories for nutrition, water and sanitation, and parasitology. A statistical and data processing lab based upon microcomputers is also programmed as direct support as well as the usual training supplies used at educational institutions.

One of the most important facilities will be the library. Public Health libraries with strong francophone traditions are difficult to develop due to a relative scarcity of resources. Short-term technical assistance will assist the SPH in putting together a basic collection of journals and books as well as a microcomputer-based bibliography service in conjunction with the U.S. counterpart university.

The University will contribute some office and laboratory equipment and will gradually assume responsibility for supplies and equipment for the laboratories, library and offices.

### III. Implementation Planning

#### A. Administrative Arrangements

The project mode will be a bilateral agreement between the Government of Zaire represented by the Department of Higher Education and Scientific Research and the Government of the United States represented by USAID. The UNIKIN will have the major responsibility for project implementation. At the beginning of project activities this will be exercised through the UNIKIN Medical School's Department of Public Health. At a point to be determined jointly by DHESR and UNIKIN, but no later than December 31, 1988, UNIKIN will accord the School of Public Health independent status and equality with the other schools of the UNIKIN system. At this point the School of Public Health will take on the major responsibility for project implementation.

Other elements of the GOZ will participate in project implementation. The most important of these will be the Department of Public Health (Ministry). This organization will be responsible for supervision of the two field training research areas and will participate in the selection of candidates for training and in the development of the curriculum.

The entity responsible for the day-to-day implementation activities will be the Project Management and Coordination Unit (PMCU). Initially, this Unit will be under the administrative control of the Medical School's Department of Public Health. It will be placed in the SPH when the school has been established. The contracting U.S. university team will work through the PMCU. The PMCU will be made up of at least the following:

- 1 Director of the Project (GOZ representative)
- 1 Chief of Party of the contracting U. S. university and Deputy Director (one position)
- 1 Full time administrative assistant (expatriate)
- 1 Full time administrative assistant (local hire)
- 1 Full time bilingual secretary
- 2 Full time messengers/chauffeurs.

One of the first tasks of the Project Director will be to prepare detailed job descriptions for the PMCU core staff. This will be done in consultation with the contracting U.S. university. As the project moves into implementation other positions may be established as needed. As noted in the project description this staff will grow to 14 by the end of year five and to 21 by the end of year ten. Every effort will be made to use existing GOZ employees who can be transferred into the PMCU.

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Specific responsibilities of the PMOU will include but will not necessarily be limited to the following:

- 1) Establish policy and program in consultation with the Project Council of Associates
- 2) Develop detailed program plans, schedules, budgets and operational procedures
- 3) Enter into agreements with national and local institutions for project implementation
- 4) Coordinate and monitor implementation by participating insititutions
- 5) Plan and monitor training in collaboration with the DPH (M)
- 6) Plan and monitor short-term technical assistance
- 7) Report regularly to the Council of Associates and the DHESR, DPH (M), USAID and other donors
- 8) Prepare annual reports
- 9) Prepare the counterpart funded annual budgets and administer disbursements; prepare reports for same
- 10) Recommend requests for ordinary budget assistance to the DHESR/UNIKIN
- 11) Prepare requests for purchase of project commodities; monitor use of same
- 12) Monitor project and provide periodic reports to the School of Public Health, the contracting U.S. University and USAID/Zaire.
- 13) Provide housing, logistical services, transportation and general administrative support for long and short term contract personnel.

The contracting U.S. university will have the following responsibilities:

- a) Determine, in collaboration with UNIKIN, the need for long-term and short-term technical assistance.
- b) Recruit and provide support for technical assistance.
- c) Develop and recommend curriculum in collaboration with the UNIKIN Medical School, Department of Public Health (U), and Department of Public Health (M)
- d) Identify, mobilize and support participant trainees

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in the U.S. and other countries.

- e) Establishment of a Project Coordinator Committee in the U.S. (PCC). This committee will provide professional advice and assist in evaluation of project activities; the committee would place particular attention on those items that impact on the SPH'S accreditation.

The PCC will assist Zairian students in planning their education and will develop supplementary educational activities such as seminars, conferences and research to strengthen the training and insure its relevance to public health programs and socioeconomic conditions in Zaire. When possible this should include summer or other extended study periods in Zaire or elsewhere. The PCC will provide similar support to Zairian participants in training at other schools of public health and will relate to those faculty who act as the student's advisors. The committee will also assess students' performance and educational programs at the contracting and other universities.

- f) Prepare reports for the University of Kinshasa and USAID on project activities and expenditures. Maintain and make available records for audit and evaluation.
- g) Procure and deliver all equipment and supplies called for in the contract according to established U.S. government procurement regulations.
- h) Manage and support project personnel (includes Zairians outside of their country); salaries, stipends, travel, etc.
- i) Establish a system and delegate authority for the expenditure of funds by overseas and U.S.-based project personnel.
- j) Assist the School of Public Health in all activities related to the strengthening of its academic program and full development of this School.
- k) Teach courses in the School of Public Health and participate in field training programs.
- l) Collaborate in the selection of Zairian candidates for long and short term training programs.

The SPH through the Office of the Director would have the following responsibilities:

-Represent the Office of the Dean of the Medical School

-Direct and supervise the activities of the faculty assigned to the SPH

-Designate counterparts to work with the U.S. contracting university's team

-Make recommendations to the Dean of the School of Medicine concerning academic appointments, grades and continuation of services of all personnel in the SPH.

-Be responsible for requisition and allocation of space for offices and classes and for distribution of supplies and equipment.

-Certify project expenditures to the appropriate University fiscal office; maintain records on activities; prepare periodic progress reports and make records fully available for AID auditing and other monitoring requirements.

USAID/Zaire will be one of three principal participants along with the GOZ and UNIKIN. USAID/Zaire will have the following responsibilities under the project:

1. Represent the USG in negotiations and discussions with other concerned parties on project matters.
2. In regards to the first six PMCU specific responsibilities listed above, USAID will review and approve all action recommendations.
3. Negotiate the project agreement with the GOZ.
4. Review and accept documentation related to satisfaction of conditions precedent.
5. Selection of the Contracting U.S. University (jointly with the GOZ) and negotiation of the contract with the University.
6. In cooperation with the GOZ and U.S. University, establish procedures for the disbursement of dollar and counterpart funds.
7. Disburse funds to the GOZ and contracting University - monitor expenditures.
8. Supervise and audit GOZ and University contracts.
9. Monitor the procurement of project commodities and their entry into Zaire.
10. Review progress reports from the GOZ and contracting University.
11. Participate in the organization and implementation of periodic project evaluations.

The DHESR will have the following responsibilities under the project:

1. Negotiate and approve project agreement with USAID/Zaire.
2. Provide USAID with the documentation to satisfy the conditions precedent of the project agreement.

3. Continue to pay salaries and other costs for incumbent Zairian faculty and administrative staff of the SPH.
4. Prepare line item ordinary budget request for assistance to SPH.
5. Establish policies and support programs to encourage cooperation among the School of Public Health and public and private institutions involved in health programs.
6. Participate in periodic evaluations.

The University UNIKIN will have the following responsibilities:

1. Allocate space in existing facilities to accommodate the new School of Public Health - classrooms, laboratory, library, office space, etc., and maintain facilities.
2. Review and approve SPH curriculum schedules and field training.
3. Establish, in collaboration with the SPH and the Department of Public Health (M), criteria for selection of candidates to the SPH.
4. Establish colleageal relationships with other Universities, both in Africa and elsewhere.
5. Establish, at the appropriate time, but no later than December 31, 1988 the SPH as an independent School with equity of other schools within the UNIKIN system.

The Office of the Dean, School of Medicine (UNIKIN) will have a key role in the establishment of the School and especially in its relationships to undergraduate medical education. The training of physicians in the School of Medicine should continue to include concepts of preventive medicine integrated into the teaching of clinical subjects. Discussion of a case of a child stricken with tuberculous meningitis should also excite the students' interest in the search for the source of the infection as well as steps to protect members of his family and others. In addition, courses on biostatistics and epidemiology would help students develop a critical approach to the reading of scientific literature and accepting therapeutic claims. It will also help in understanding the dynamics of episodic, epidemic and endemic incidence and prevalence of different groups of diseases. Diligence should be exercised to see that such teaching to all medical students is strengthened by the creation of a new School of Public Health. More formal public health training for graduate physicians than is being given by the present Department of Public Health would be incorporated into the program of the new SPH. The Office of the Dean will be concerned with the distribution of faculty time devoted in the two directions and will facilitate close cooperation between the SPH and relevant departments in the School of Medicine.

With the SPH initially under the administrative control of the School of Medicine, members of the faculty of the SPH would be subject to administrative protocol of the School of Medicine with respect to appointment, promotion and other matters. As appropriate, they would participate in Faculty Committees and other activities of the School of Medicine.

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The project will be assisted by a Project Council of Associates which will be composed of the following:

1. Representative of DHESR (President)
2. Representative of the Department of Health (M) (Vice-President)
3. Dean of the UNIKIN Medical School
4. Director of the Project/Director of the SPH
5. Chief of Party of the Contracting U.S. University
6. Representative of USAID
7. Representatives of other participating or interested institutions

The Council will meet at least semi annually to carry out the following responsibilities:

- 1) Coordinate donor and Zairian inputs to the project
- 2) Recommend policy for the project to the Administrative Council of the University
- 3) Recommend project program to the Administrative Council of the University
- 4) Recommend standards for the project to the Administrative Council of the University
- 5) Review progress of the project and make recommendations for project modification

The Department of Public Health will have the following responsibilities:

1. Participate in the formulation of curriculum, length and schedule of training
2. Participate in the selection of field training sites
3. Supervise the refurbishment of the field training centers
4. Prepare lists of equipment and supplies for the field training centers
5. Supervise the operation of the field training centers
6. Participate in the establishment of criteria for selection of SPH candidates and participate in the selection process.

B. Pre-Implementation Activities

The timetable for some of the early steps in the establishment of the SPH is rigidly determined by the usual months of the year when University training is given. The academic year usually begins in late September or

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early October and ends nine to twelve months later. The present implementation schedule plans to send the first group of Zairians abroad for training during the 1984 - 85 academic year. This calls for an August 1984 departure from Zaire for these participants. Sufficient time for selection, application and admission would be needed. Should an August departure not be feasible, it will be necessary to examine the possibility of sending trainees abroad in January, 1985. In addition, the schedule calls for the SPH at UNIKIN to begin its own Certificate in Public Health program during the 1985 - 86 academic year. This requires the Project Agreement be signed at least four months prior to the start of the academic year curriculum design and other preparations. A substantial delay in this schedule will require allowance for an additional year's delay in the initiation of the full time Certificate program at the school.

As shown in the schedule on Table I, the PP submitted to USAID/Zaire and the GOZ early in 1984 might be approved by June and the ProAg signed shortly thereafter. Based upon this a Request for Proposals (RFP) could be issued and the GOZ/USAID could initiate pre-implementation activities, such as lining up candidates for long-term training overseas. As soon as the U.S institution is selected, informal authorization of pre-implementation work could be given while details of the contract are being finalized. High priority should be given to the selection of Zairians to begin long-term training out of country in September, 1984. A Contracting University consultant will help choose the trainees from among the potential candidates. That will be a most critical step, since these persons make up the future faculty positions at the new SPH in Kinshasa and all of them will be other than incumbent full-time faculty persons in the present Department of Public Health in the School of Medicine. Jointly, the parties will choose candidates on the basis of qualifications, availability, commitment to designated job assignment and likelihood of being accepted by the foreign training institutions. Those not proficient in English could be sent for English language training or go to Francophone schools. It would expedite matters, other factors permitting, to select only English-speaking trainees the first year. Otherwise, the CSPH would have to explore possibilities among Francophone schools, interpret the needs and possibly visit them. It would be more satisfactory if such time-consuming international involvements could be made at greater leisure before the second round of foreign training.

The GOZ could immediately begin construction alterations for the physical facility of the SPH. SPH and CSPH will need time to develop and implement a timetable for parallel sequential designation of new Zairian faculty for SPH and the arrival in Zaire of their counterpart advisors from CSPH and from WHD (by arrangement with that agency).

After the pre-implementation period, the major activity is to prepare for the first academic year. The CSPH would furnish one or more professional advisory persons to serve during the preparatory period. Such persons would preferably also be among the later advisors from CSPH.

C. Schedule of activities

TABLE I

Any schedule of activities for this project must be constructed as a function of the academic calendar, which calls for classes to begin in late September or early October. Timing thus becomes essential: project activities can be set back an entire academic year as a result of a small delay. The following proposed implementation schedule tentatively assumes month 1 to be June, and calls for the first Certificate class at the SPH to begin in October, 1985. One activity which does not appear below is the selection of candidates for long-term participant training in the U.S. for 1984/85. Every effort will be made to achieve this, but it should be noted that the more likely scenario, due to time constraints, would have the first PhD candidates beginning their studies in the U.S. in the fall of 1985. The implementation steps are here presented in number of months after the first activities are authorized rather than in specific months because of the uncertainty of the start-up date.

	Base Time
1. GOZ/USAID sign project agreement	Month 1
2. Request for Proposals prepared and published	Month 2
3. GOZ begins Preimplementation Activities; participants for PhD Training in U.S. selected	Month 3
4. Proposals Reviewed; Contracting U.S. University selected; Contract signed with CSPH	Month 6
5. DHESR and University name individuals to new SPH and formalize same	Month 6
6. Office organized in University and co-ordinating project team begins to function	Month 7
7. First two advisors from CSPH arrive Zaire	Month 8
8. Planning and development unit established within Zairian/American SPH structure	Month 8
9. Detailed PERT chart of all activities produced for three year period	Month 9
10. Council of Associates established	Month 9
11. First specialist section formalized	Month 10

12. Potential faculty members selected for training abroad for academic year 85/86. Funds designated. Applications processed. Month 10
13. Second group of advisors (two) CSPH arrive in country Month 11
14. All vehicles and other commodities ordered; All library and laboratory orders in and plans finalized. Month 11
15. All renovation has begun at building on campus Month 12
16. Plan for first short course to be given at SPH finalized Month 12
17. Short course given Month 13
18. Decision made to start Certificate program in 1985 Month 13
19. All applications for 2nd round of students sent. Start course training for current faculty stipulated Month 13
20. Review of field training areas. First Certificate class in Zaire selected and selection process formalized Month 14
21. Selection of field training areas Month 15
22. Renovation of facilities at field sites Month 16
23. Review of entire curriculum and personnel needs. Decision as to status of LT personnel Month 15
24. 2nd short course offered Month 16
25. All facilities judged ready for use Month 16
26. First annual report prepared and submitted Month 16
27. Board of Visitors arrives Month 17
28. First Certificate class begins Month 17
29. Audit of all labs/library and physical plant Month 21
30. Start course plan for second year Month 22
31. Third short course Month 22
32. Second year students selected Month 25
33. Fourth short course Month 25

YD

- |                                  |          |
|----------------------------------|----------|
| 34. End of school year 1985      | Month 25 |
| 35. First graduation             | Month 26 |
| 36. Fifth short course           | Month 26 |
| 37. Second year report generated | Month 29 |

#### IV. MONITORING AND EVALUATION PLAN

For monitoring the process of institution building, objectively verifiable indicators of amounts of institutional and project activity are fairly straightforward and include such things as number of students trained, number of courses offered, etc. In order to assess the more subtle implications associated with institution building such as quality, effectiveness, stability and future potential, a different approach is called for. The following mechanisms and procedures are suggested to include both aspects noted above.

The standard Mission monitoring strategy of monthly reports listing quantitative accomplishments and describing problems will be followed and matters discussed with the responsible AID project officer. At the end of each academic year an annual report will be published in English and French with the purpose of documenting School of Public Health accomplishments.

Three months after contract signing, the contracting university team will produce a modified PERT chart with a three year frame of activities which will be updated on a yearly basis and used as a benchmark for project monitoring. The scheme will be based in large part on the evaluation indicators given below.

For in-depth appraisal of institutional maturity, it is suggested that a three-person advisory board be selected consisting of senior public health educators with world reputations from the United States and/or elsewhere. This committee, jointly chosen by USAID, SPH and Contractor personnel would meet at the beginning, after the second academic year and at the end of the fourth academic year in order to review the development of the School of Public Health as a national and international institution. Special attention would be given to the school's ability to sustain itself economically while doing a quality job of Public Health training in the Zairian environment. The same committee could also be utilized to advise on other project evaluations. This committee should remain stable and the long term contributions of each member will be enhanced by long-time exposure to the project.

Finally, prompt feedback from all monitoring and evaluation procedures will be expected in written form so that SPH personnel and others can react to the findings and modify activities accordingly. Reports will be sent to the appropriate persons within each agency and will vary with the subject under observation. Recipients would include the SPH, MOHE, the MOH, other health service agencies in Zaire, AID, WHO and teaching institutions abroad.

There will be both internal and external evaluation. The former would be reported annually together with the monitoring data by the head of the SPH. The latter would be special GOZ/AID assessments with other parties such as WHO after three and five years. The exact scope of evaluation would differ in the several reports, from among the topics listed below. Where applicable, an attempt will be made to estimate cumulative percent of achievement toward the ultimate objective. Factors associated with shortfall will be identified.

A. Training

Number of persons, disciplines, duration, degrees conferred, places of study, cost to AID, cost to sponsoring agency or organization. Reports by teaching institutions of calibre of trainees and quality of their academic work.

Positions held by graduates and relevance to training objectives.

Opinions of graduates concerning the training they received: amount, content, quality, relevance, applicability.

Opinions of on-the-job supervisors of graduates concerning evidence of utility of the training received.

Interviews with sample of graduates and review of job tasks in present positions for evidence of relevant knowledge and skills and of transfer and adaptation of training experience to needs in Zaire.

Review of training content and methods of teaching institutions for suitability to needs of Zaire, especially of adaptations of established curricula and changes over time in response to Zairian trainees.

B. The School of Public Health

Physical plant: Timing of development, space, condition, number of classrooms in relation to need, professional offices and administrative rooms.

Faculty: number, fields and disciplines, competence, percent of time given to non-School activities, School activities, stability in positions.

Certificate in Public Health program

Number of trainees, disciplines, job placement after graduation.

Curriculum - breadth, depth, core and electives, actual scope of courses taken by individual members of trainee group, individual student projects and their utility for Zaire.

Opinions of trainees and their supervisors in job placements concerning quality, appropriateness and utility of training.

Evidence of application of training experience on-the-job; and of training gaps.

SPH staff time required.

School schedule - course conflicts, block times, appropriateness of duration.

**School Courses:**

- Number, duration, topics, number and categories of trainees.
- Relationship to priority needs in Zaire.
- Opinions of participants and others concerning quality, relevance and utility.
- Pre-post test score improvement

**The Library**

- Development, staffing, acquisitions, adequacy, utilization, satisfaction of students and faculty, cost.

**Amenities and conveniences for trainees**

- Living arrangements
- Meals
- Study areas
- Lounge and rest rooms
- Satisfaction of students

**Field training**

- Area - convenience, adequacy, utility
  - utilization for Certificate Program, short courses and other purposes
  - administration of service program in training areas
  - adequacy and contributions of teaching staff
  - cost
- Other field work

**Research activities**

- Projects, participation of service agencies, relevance to needs of Zaire, promptness of reports, evidence of impact of findings in modifying health services.

**Consultations and other activities in Zaire and elsewhere**

**Council of Associates**

- Composition, attendance, activities, contributions, satisfaction.

**School relationships and status; utility and utilization**

- In University
- In School of Medicine: with Office of Dean and Departments
- With MOH
- With others in Zaire
- With contracting University
- Internationally

Costs to AID, GOZ and other parties; contributions by GOZ

**C. The Contracting University**

- Advisors placed in Zaire (long term and short term)
  - Number, categories, timing, activities, calibre, utility, relationships, costs
- Status at home base
  - Administrative and back-up arrangements, support, costs
- Coordinating unit in Zaire
  - Composition, adequacy, utility, problems

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D. Impact on health services in Zaire

Organigrammes of MOH, ECZ and other organizations with indication of incumbents who received long term and short term training under the project abroad and in Zaire

Map of Zaire indicating geographic placement of different categories of trainees

Significant developments related to the Project

(e.g.) - establishment of an Evaluation Unit in MOH;

- Strengthening of national training system in MOH;

- development of systematic supervision system for primary care workers

E. Concurrent health trends in Zaire

Vital statistics: mortality, morbidity, fertility

Relationship of improvement in selected health indexes to placement of graduate trainee or other specific SPH activity in defined areas and populations.

Possibly prevalence surveys on health knowledge, attitudes, practices by defined areas and populations.

F. Future prospects

GOZ planning steps and other indications of assumption of recurrent costs and other preparations for increasing assumption of fiscal responsibility for SPH.

New sections, courses or other developments at SPH

International recognition,

contribution of funds by other donor agencies, referral of students, technical assistance to SPH.

Prestige, recognition of faculty members.

V. Summary of Analyses

A. General

The structure of the school of Public Health will be similar to that of accredited U. S. institutions with core areas of biostatistics, epidemiology, health administration, environmental health and the sociocultural aspects of health behavior. Due to Zaire's special problems special focus will be placed on maternal and child health, family planning and nutrition.

The most important departure of this institution from similar Schools of Public Health will be a major emphasis on the field training component and student participation in applied research activities. Rural and urban field sites will be integrated completely into the training program with at least ten percent of all instruction time devoted to field activities. The constant focus on applied education specific to the problem of Zaire will create a difficult problem in logistics. Solutions need to constantly emphasize appropriate teaching and research technology.

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Short term courses will be open to a wide range of health and other professionals, while the Certificate program will initially be restricted to nurses, physicians, pharmacists, dentists, health administrators, etc. The program will be 10 months long for the Certificate candidates and short courses will be of varying lengths. Some students in the degree program will participate in faculty sponsored research activities after their 10 month training is completed.

Major supportive elements of the school include a library, laboratory and the field training resources. French language materials will be difficult to obtain and a special budget item needs to be set aside to obtain them. It is felt that all major statistical work can be accomplished on microcomputers and a micro-computer based statistical laboratory is included in the budget. Library computer assisted data searches also are foreseen in cooperation with the contracting university. Basic teaching laboratories will be set up in infectious disease (parasitology), environmental health (water/sanitary) and nutrition. Special emphasis is placed upon rapid low cost, portable equipment and techniques.

Student selection and student placement will be important considerations. It will be appropriate to choose students currently involved in the national health system with the understanding that they will return to these positions. This issue has been carefully discussed with University and Department of Public Health representatives and there is agreement on the need to develop mechanisms to assure that personnel trained by the project are effectively utilized after completion of the studies.

The social soundness analysis indicates that the institution building activity which centers around the University is highly supportive of the cultural and economic system, will help the status of women and will be easily absorbed into the country.

No environmental or energy related issues are involved.

#### B. Recurrent Costs/Sustainability

Perhaps the most crucial part of any new institution building effort in one of the poorest of the developing countries is assuring its continuing financial viability under harsh economic circumstances. While every attempt has been made in this planning process to minimize the long term recurrent costs of a potential School of Public Health, there will be some added costs after the AID supported assistance is terminated. This problem is further aggravated by the academic heritage of the French and Belgian systems in which the student is actually paid by the Government to go to school, as opposed to students paying in the United States.

By the end of ten years the School of Public Health will have the administrative, academic and physical capacity to continue a broad range of teaching and research activities at the graduate and undergraduate levels. From the start the GOZ will assume responsibility for almost all of the local currency faculty and staff costs and will annually increase expenditures for training, commodities, renovations, research and other operating expenses. Direct GOZ expenditures begin at 920,000 Zaires, gradually increase to about 3.5 million Zaires in year five, and will average about 4.2 million Zaires

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during years 6-10. This figure includes costs for training and research which will be shared by Departments other than the Department of Higher Education and Scientific Research. For example, by year five almost 75 percent of the training costs (scholarships and stipends) will be met by sources outside the university -- primarily by the Department of Health (M) who will financially support the personnel they send to the school.

The school will also be able to generate revenues through the collection of student fees, consultant services and by charging public and private institutions who request assistance in the design and implementation of conferences and training programs. Higher fee schedules could be established for international students in the Certificate program and short courses. Many schools of public health throughout the world derive substantial revenues through continuing education programs and the new School of Kinshasa should consider this option.

The school will also develop a large body of African-oriented training materials for all major fields of public health. These can be sold to its students as well as to those in other faculties and universities in Zaire and other African nations. They will also be able to charge public and private institutions (e.g. large industries) for field and laboratory research on special health problem such as pollution control and occupational health.

The school's research program should also be of interest to private and international development institutions (e.g. WHO). Research grants normally support faculty salaries, student assistants, research expenses and a portion of overhead costs. The preparation of research protocols and the quest research funds is part of the normal scope of activities in a school of public health and the contracting university will train Zairians to develop proposals. The viability of the school and its academic programs will not, however, depend on securing these outside resources.

The annual cost of sustaining the full range of school activities by the end of the project is about \$188,000 dollars a year. This includes the salaries and benefits for 21 faculty and a 23 person staff. This will have to be financed through the budget of the University of Kinshasa, the Department of Higher Education and the Department of Public Health (M)



ANNEX 2  
Logical Framework Matrix

<u>Narrative Summary</u> <u>Program or Sector</u>	<u>Objectively Verifiable Indicators</u> <u>Measures of Goal Achievement:</u>	<u>Means of Verification</u>	<u>Assumptions</u>
Goal: To improve the effectiveness of Health Services in Zaire	<ul style="list-style-type: none"> <li>-Decreased infant mortality and chronic undernutrition of young children</li> <li>-Lower maternal morbidity and mortality</li> <li>-Elimination of death from tetanus of the newborn</li> <li>-Prevention of communicable diseases and their serious complications</li> <li>-Improvement of the health of mothers and children by improved spacing between pregnancies</li> <li>-Prevention of serious secondary infections</li> <li>-Reduction of serious illness and death among "high risk" mothers and children</li> <li>-Better health of children and adults through education on nutrition.</li> </ul>	<ul style="list-style-type: none"> <li>-National Census</li> <li>-Studies by organizations such as WHO</li> </ul>	<ul style="list-style-type: none"> <li>-Improved economic conditions</li> <li>-Increased GOZ budgetary commitment to public health</li> <li>-Increased trained manpower in public health field</li> <li>-Self financing of Health System continues</li> <li>-Major involvement of indigenous PVO's continues</li> </ul>

<u>Project</u>	<u>Conditions indicating purpose has been achieved</u>	<u>Means of Verification</u>	<u>Assumptions</u>
<u>Purpose:</u> To develop the UNIKIN Faculty of Medicine's Department of Public Health into an independent and fully accredited School of Public Health within the UNIKIN system	<ul style="list-style-type: none"> <li>-The number of trained public health medical personnel available to work in the country increased 80 percent</li> <li>-Ongoing professional short-term training programs are established at UNIKIN</li> <li>-A research staff in place at the School and capable of rapidly reacting to current DPH information needs</li> <li>-A training program for trainers of lower level outreach personnel in the health sector will be initiated.</li> <li>-A cadre of executives trained in health planning and management will be developed.</li> </ul>	Project evaluation funding to UNIKIN for SPH	<ul style="list-style-type: none"> <li>-GOZ maintains and/or increases activities</li> <li>-The School faculty successfully complete U.S. training and return to UNIKIN.</li> </ul>

<u>Project</u>	<u>Magnitude of Outputs</u>	<u>Means of Verification</u>	<u>Assumptions</u>
<u>Outputs:</u> Trained school faculty able to manage projects, carry out long-term and short-term training and direct research  Improved School facilities Library Laboratory Two field sites for interventions	<ul style="list-style-type: none"> <li>-10 Zairian professors trained in the U. S. (at least 6 at the Ph D level); 43 Zairians complete short-term overseas training</li> <li>-Library with resources comparable to U.S. public health institutions established and functioning</li> <li>-Laboratory with resources comparable to U.S. health institutions established and functioning</li> <li>-Two field sites carrying out applied research.               <ul style="list-style-type: none"> <li>- Revamped curriculum</li> </ul> </li> <li>-Revamped administrative structure</li> <li>-258 Zairians enrolled in Certificate Program; (220 receive degrees).</li> <li>-560 Zairians complete short-term in-country training programs.</li> </ul>	Project evaluation Project records	<ul style="list-style-type: none"> <li>-Qualified U. S. technicians can be recruited and placed in Zaire.</li> </ul>

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Inputs:

USAID

		<u>Cost</u>	<u>Means of Verification</u>	<u>Assumptions</u>
<u>1.0 TECHNICAL ASSISTANCE</u>				
1.1 Long Term	144 pm at \$12,500 per	\$1,800	Project Records Site inspection to verify that commodities have been received.	Commodities are ordered and shipped promptly. TA recruited in a timely fashion
1.2 Short Term	116 pm at \$14,000 per	\$1,630		
1.3 USA coord	54 pm at \$3,300 per	\$ 180		
<u>2.0 OVERSEAS TRAINING</u>				
2.1 Long Term (PhD)	360 pm at \$2,333 per	\$ 840		
2.2 Short Term (USA)	78 pm at \$3,333 per	\$ 260		
2.3 Short Term (Non US)	45 pm at \$3,333 per	\$ 150		
<u>3.0 COMMODITIES</u>				
3.1 Library books, journals		\$ 190		
3.2 Microcomputers/Supplies		\$ 130		
3.3 Lab Equipment/Supplies		\$ 210		
3.4 Office/Classroom Equipment		\$ 200		
3.5 Household Equipment		\$ 100		
3.6 Vehicles (8 Jeeps 4WD)		\$ 160		
<u>4.0 ADDED TRAVEL/PER DIEMS/OTHER COSTS</u>				
4.1 Travel		\$ 50		
4.2 Per Diems		\$ 50		
5.0 Inflation (7%)		\$ 979		
6.0 Contingency (20%)		\$1,386		
TOTAL		\$8,315		

<u>GOZ</u>	<u>Counterpart Fund</u>		<u>Ordinary Budget</u>		<u>Total</u>	
	Z000	\$000*	Z 000	\$000*	Z 000	\$ 000*
1. Personnel	3920	123	22340	698	26200	821
2. Training/Applied Studies	4470	140	7200	225	11670	365
3. Commodities	7200	225	1210	39	8410	264
4. Construction/Renovation	5230	163	210	6	5440	169
5. Travel/per diem	7700	240	1140	36	8840	276
6. Other Costs	5300	166	32310	1009	37610	1175
7. Inflation/Contingency	5164	161	-	-	5164	161
TOTAL	38984	1218	64410	2013	103394	3231

ANNEX 3

STATUTORY CHECKLIST

Country Checklist - Refer to the Applied Agricultural Research and Outreach Project Paper (660-0091), approved on September 6, 1983.

Project Checklist - On following pages.

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5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only: B.1. applies to all projects funded with Development Assistance Funds, B.2. applies to projects funded with Development Assistance loans, and B.3. applies to projects funded from ESP.

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

A. GENERAL CRITERIA FOR PROJECT

- FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;  
 (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

A Congressional Notification will to the Congress on June 12, 1984.

- FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,00, will there be

YES

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(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?

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

NO FURTHER LEGISLATION REQUIRED IN ZAIRE.

- 4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. Is for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.)

N/A

- 5. FAA Sec. 611(g). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

N/A

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6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.
7. FAA Sec. 501(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and 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.
8. FAA Sec. 501(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).

NO

N/A

N/A

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9. FAA Sec. 612(b), 636(h);  
FY 1982 Appropriation  
Act Sec. 507. 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.
- COUNTERPART FUNDS AND OTHER GOZ  
CONTRIBUTIONS ARE FROM LINE GOZ  
BUDGETS.
10. FAA Sec. 612(d). Does  
the U.S. own excess  
foreign currency of the  
country and, if so, what  
arrangements have been  
made for its release?
- NO
11. FAA Sec. 601(e). Will  
the project utilize  
competitive selection  
procedures for the  
awarding of contracts,  
except where applicable  
procurement rules allow  
otherwise?
- YES
12. FY 1982 Appropriation Act  
Sec. 521. If assistance  
is for the production of  
any commodity for export,  
is the commodity likely  
to be in surplus on world  
markets at the time the  
resulting productive  
capacity becomes  
operative, and is such  
assistance likely to  
cause substantial injury  
to U.S. producers of the  
same, similar or  
competing commodity?
- N/A
13. FAA 118(c) and (d).  
Does the project comply  
with the environmental  
procedures set forth in  
AID Regulation 16? Does
- N/A

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the project or program take into consideration the problem of the destruction of tropical forests?

- 14. FAA 121(d). If a Sabel 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 (dollars or local currency generated therefrom)?

N/A

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 181(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life. and

**PUBLIC HEALTH IS ONE OF THE MOST EFFECTIVE WAYS OF USING LIMITED RESOURCES TO IMPROVE THE QUALITY OF LIFE AND PRODUCTIVITY OF THE POOR.**

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

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

YES

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

APPROPRIATE TECHNOLOGY LABORATORY AND TEACHING METHODS ARE PROGRAMMED INTO PROJECT ACTIVITIES.

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

THROUGH CONTRIBUTION OF BUILDING AND CURRENT FACULTY, GOZ WILL PROVIDE APPROXIMATELY 28 % OF TOTAL COST.

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e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character.

N/A

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

YES - IMPROVED HEALTH STATUS THROUGH PUBLIC HEALTH MEASURES WILL IMPROVE THE ECONOMIC POTENTIAL OF THE POPULATION AS WELL AS THE POTENTIAL FOR SELF-SUSTAINING ECONOMIC GROWTH

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage

BY PROVIDING A NEW DEVELOPMENT RESOURCE FOR IMPROVING THE INTELLECTUAL CAPITAL OF THE COUNTRY AND BY DEDICATING ITSELF TO INSTITUTIONAL DEVELOPMENT, THE PROJECT WILL CONTRIBUTE DIRECTLY TO IMPROVING SKILLS REQUIRED FOR EFFECTIVE PARTICIPATION IN GOVERNMENTAL PROCESSES.

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institutional development;  
 and supports civil  
 education and training in  
 skills required for  
 effective participation in  
 governmental processes  
 essential to self-government.

2. Development Assistance Project  
 Criteria (Loans Only)

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

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

c. ISDCA of 1981, Sec. 724  
 (1) and (d). If for  
 Nicaragua, does the loan  
 agreement require that the  
 funds be used to the  
 maximum extent possible for  
 the private sector? Does  
 the project provide for  
 monitoring under FAA Sec.  
 624(g)? N/A

3. Economic Support Fund  
 Project Criteria

a. FAA Sec. 531(a). Will  
 this assistance promote  
 economic or political N/A

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stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

- b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities? N/A
  
- c. FAA Sec. 534. Will ESP funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives? N/A
  
- d. 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? N/A

ANNEX 4

**B/G Request for Assistance**

Kinshasa, le 22 août 1984

Tel. : 23064-22113 ext. 111-112-130

N/Réf. : UNIKIN/R/ 634/Muna/84.-

Objet : Projet de l'Ecole de Santé  
 Publique USAID/ZAIRE 660-0101

A Monsieur Richard L. PODOL  
 Directeur de l'USAID/ZAIRE  
 à KINSHASA

*File 6/17 (1)*

*Log in  
 Action PTO*

*File 101 concept  
 chaus*

**581**

ACTION TAKEN	
<i>noted, passed          to Committee -</i>	
NAME <i>PT</i>	DATE <i>22 Aug 84</i>

J'ai l'honneur d'accuser réception de votre lettre du 23 mai 1984 ainsi que du Document Final du Projet de l'Ecole de Santé Publique.

L'ensemble de notre Université et moi-même avons accueilli ce Document d'une manière très favorable. Nous louons cette initiative combien heureuse ainsi que les efforts inlassables que votre Gouvernement ne cesse de fournir afin de mettre à la disposition de nos services de Santé un personnel compétent dans le domaine de la Santé Publique qui, tout le monde le reconnaît aujourd'hui sans ambage, constitue la solution la meilleure de nos problèmes dans ce domaine.

Vous avez reçu en date du 13 août courant une copie de la lettre que le Doyen de la Faculté de Médecine m'a adressée pour me faire part des avis techniques relatifs à ce Projet qui ont été émis par le Conseil Facultaire du vendredi 10 août 1984. - L'Université de Kinshasa fait siens ces différents avis.

Comme vous le savez, c'est l'Université de Kinshasa qui a initié ce Projet et participé de manière active à son élaboration. Il est clair que sa position ne sera que celle de défendre son Projet au Conseil d'Administration des Universités qui est l'Organe chargé de prendre la dernière décision en ce qui concerne l'organisation de nouveaux enseignements.

Je vous demanderai donc de bien vouloir cabler favorablement à l'USAID/WASHINGTON suite à son télex n° STATE 245151 et lui confirmer que les formalités qui restent sont des formalités administratives mais que l'accord de principe de l'Université de Kinshasa est acquis.

Veuillez croire, Monsieur le Directeur, en l'assurance de mes sentiments distingués.

*Recu le 8/24/84*

UNIVERSITE DE KINSHASA  
 POUR LE DIRECTEUR DE L'UNIVERSITE DE KINSHASA  
 EN CONGE,  
 LE SECRETAIRE GENERAL ADMINISTRATIF,  
 = PROF. MAADIKA BOTHA =

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ANNEX 5

FAA Section 611 (e) certifications - NOT APPLICABLE

ANNEX 6

PROJECT ANALYSES

I Technical Analyses

With less than 30 persons with advanced Public Health training and a population of some 30 million, Zaire has a serious shortage of Public Health specialists. Particularly needed are individuals conversant with public health problems and trained in public health management, administration and planning. The lack of a functional government public health infrastructure is partly attributable to the lack of an adequately trained pool of professionals to manage and operate such activities. This project will assist the Department of Public Health in the School of Medicine, University of Kinshasa, to expand and develop into a separate unit, capable of training up to and including the graduate level in public health as well as providing short-term, in-service training to health workers. The project is perceived as the most cost-effective and feasible solution to the expressed desire of the Department of Public Health to expand the number of Zairians with specialized and graduate public health training. Without such a training capacity, significant expansion and improvement in health care nationally cannot be forthcoming. Pressure for such expansion is high now, because the GOZ has joined with other developing countries in a commitment to bring primary health care to its rural populace and because of the concurrent and parallel drive to immunize children against communicable diseases.

Training Zairians abroad in public health is very costly. Cost estimates in the United States for such long-term training are about \$ 2500.00 per month (including books and per diem) and for short-term training about \$ 3500.00 per month. Although comparable figures for in-country training are not available, a study of the American University of Beirut's School of Public Health in the mid-sixties showed that training costs were about one-quarter of similar training in the United States.

Currently 28 individuals with advanced public health training are working in the Zairian health sector. Another six are undergoing training abroad. An immediate demand for advanced training by AID-financed projects, for both long - and short-term training over the next four years, is estimated as follows:

The Family Planning Services Project (660-0094)  
6 professionals LT (at least one year) at Masters level  
25 professionals ST at technical level

The Basic Rural Health Project (660-0086)  
30 professionals LT at Masters level  
55 professionals ST at technical level

CCCD Project (698-0421)  
49 person/months of out-of-country training (short term).

The cost of this training alone is estimated at 1.6 million dollars. The USAID-assisted Area Nutrition Improvement Project will generate additional training demands.

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This project is presented as a more cost efficient way of meeting the public health training needs of Zaire as well as creating a resource for assistance to others with similar training objectives in the entire sub-Saharan Francophone region. The project will capitalize on the very serviceable physical facilities presently at the disposal of the Department of Public Health. These include classrooms, dining facilities, a library, and office buildings. Presently underutilized, these facilities will be turned to good use by the project.

Curricula and programs in U.S. schools of public health are designed primarily for health and management problems associated with chronic disease and for capital intensive, high technology care characteristic of developed countries. The new graduate from such a program may be faced with the problem of trying to implement inappropriate techniques when he returns to Zaire, therefore programming himself for failure and impeding his effective use in the society. The best training will provide the student with tools appropriate to the work he will have to do.

Problems of a personal nature argue against public health training abroad, especially in foreign language countries. The burden of a new language combined with the need to leave one's family back home intensifies the difficulty of graduate study. The option of public health training in Francophone countries often is not feasible because of lack of available facilities. WHO regional public health training centers in Cotonou and Lomé are able to accept a maximum of 8 Zairian students per year. France and Belgium present the disadvantage of inappropriate educational agenda. Finally, the practical aspects of graduate public health training need to be coordinated with current GOZ/DPH(M) priorities. The Zairian School of Public Health will be directed towards local priorities, toward filling local personnel needs, and toward research aimed at local objectives. Of course, the Zairian SPH will not totally eliminate the need for long-term training abroad. Indeed, it will increase the demand in the immediate future, in order to train prospective faculty members. American and European schools of public health will still be in a position to provide the cross-fertilization and specialization needed on a selective basis in any higher education system. The close alliance of an American graduate public health institution with this project will be one mechanism for supporting this type of continued interchange. The elevation of the present Department of Public Health to a Graduate School conferring graduate degrees will permit the institution to join with similar schools in different parts of the world in collegial exchanges.

## LIBRARY AND INFORMATION RESOURCES

An institution such as the School of Public Health needs to have access to the most up to date information with respect to primary public health goals in Zaire. There are numerous problems in providing such a resource primarily in French under harsh conditions now present in Zaire. In order to build such a resource quickly for immediate use by students involved in long and short term courses the technical assistance team shall tap the following sources.

1. The World Health Organization. In discussions with individuals at WHO in Geneva, it is obvious that the greatest single repository of public health documents in the French language rests in that organization. Several thousand titles are available with several hundred new ones added yearly. Technical Assistance personnel should review available material closely and start the library collection by purchasing a rather complete set of documents from WHO with the strong possibility that many will be donated.
2. Basic texts and other volumes are also produced in France, Belgium and French Canada. Although fewer in number, these can be used to supplement the WHO collection.
3. A basic set of English language journals and materials should also be collected and kept current. Most of the professionals that will be in the School of Public Health will be able to read English as part of medical or other training.

Microcomputer bibliographic searches.

At least 2 microcomputers with large hard disk storage capacity compatible with counterpart School of Public Health equipment should be available for storage and review of English language abstracts of relevant public health related articles. These could be updated periodically from the National Medical Library and/or commercial abstract services and an updated disk sent over on a timely basis (bimonthly). Back issues of key journals in English can be kept on micro film for student and faculty use.

A listing of key English language journals considered appropriate for micro film subscriptions is as follows. These journals in micro-film revision could be accessible to students and faculty without requiring huge space and acquisition costs and maintenance. Given the potential student body of the school and the expected utilization patterns of students a library area with capacity for approximately 15 individuals would appear appropriate.

\*Journals indexed in Index Medicus

PUBLIC HEALTH

- \*American journal of epidemiology
- \*American journal of public health
- \*Bulletin of the world health organization
- \*Canadian journal of public health
- Current population reports
- Excerpta medica. Health economics and hospital management
- Health care management review
- \*Health services research
- \*International journal of epidemiology
- Journal of community health
- \*Journal of tropical medicine and hygiene
- \*Milbank memorial fund quarterly: Health & society
- \*Preventive medicine
- Recent advances in sexually transmitted diseases
- \*Transactions of the Royal Society of Tropical Medicine and Hygiene
- \*WHO chronicle
- Weekly epidemiological record
- \*World Health Organization monograph series
- \*World Health Organization public health papers
- \*World Health Organization. Technical report series

ENVIRONMENTAL HEALTH

- \*Archives of environmental health
- Environmental health perspectives

HOSPITALS

- Hospital and health services review

OCCUPATIONAL MEDICINE

- Journal of trauma

NUTRITION

- Advances in food research
- \*American journal of clinical nutrition
- \*British journal of nutrition
- Ecology of food and nutrition
- Indian journal of nutrition and dietetics
- \*Journal of nutrition
- \*Proceedings of the nutrition society (London)

SOCIAL MEDICINE

- Excerpta medica. Public health, social medicine and hygiene
- \*Preventive medicine

STATISTICS

- \*Statistical bulletin
- World health statistics annual
- World health statistics quarterly

TROPICAL MEDICINE

- \*American journal of tropical medicine and hygiene
- \*Annales de la societe belge de medecine tropicale
- \*Annals of tropical medicine and parasitology
- Archives de l'institut Pasteur de Tunis
- Dakar medical
- \*International journal of leprosy
- \*International review of tropical medicine
- \*Journal of tropical medicine and hygiene
- \*Leprosy review
- Medecine d'Afrique noire
- \*Medical journal of Malaysia
- \*Transactions of the Royal society of tropical medicine and hygiene
- \*Tropical and geographical medicine
- \*Tropical diseases bulletin

This preliminary list will be expanded by the addition of further journals in French gotten as a result of project personnel visiting Europe and developing appropriate lists. Textbooks and other reference materials will be selected by the faculty of the contracting university at the start of the project. This list will be substantially expanded as expatriate and Zairian faculty develop the curriculum. Further additions will be made annually and Zairians in long term training overseas will participate in the selection of library and other resource materials. Expatriate faculty should spend time in Europe and some African countries to purchase French public health books and other training materials.

### COMPUTER AND DATA PROCESSING CAPABILITY

With the advent of the microcomputer into the developing world environment, it is expected that whatever statistical and data processing needs are generated by students and faculty in the near future can be answered by a microcomputer. Sophisticated statistical analysis packages, such as BMDP, are currently available for the analysis of medium size data sets and certainly just about all teaching functions related to data processing can be taught currently on microcomputing equipment. It is suggested therefore that a microcomputer laboratory be established which includes five microcomputers. The choice of the specific brand of computer to be installed in this laboratory should reflect the need for compatibility with other UNIKIN and/or Contracting University computers, as well as the availability of appropriate software and local maintenance support. Teaching packages related to Epidemiology, Biostatistics and Administration should also be acquired. An example of available or soon to be available statistical packages for such machines include STATPAK, SIS, DATA-Quest with versions of SPSS and SAS soon to be available. Please note that the statistical and epidemiological teaching laboratory should also have the ability to double as available hardware for library functions.

Other developments in hand-held microcomputer technology and applications speak to near-term major changes in technology transfer for public health applications. The World Center for Information and Human Resources is at the forefront of the activities and has expressed an interest in collaborating with the School. A relatively small continuing budget will be provided for such activities as they develop in the future.

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#### LABORATORY FUNCTIONS

Because of the economic and social conditions existing currently in Zaire a special orientation must be developed towards laboratory-based functions. Emphasis should be placed on rapid diagnosis kits using low cost appropriate technology not available in various forms. Basic laboratory equipment for environmental health, nutrition and parasitological and tropical medicine laboratories is expected to be acquired covering those diagnostic areas where Zaire's greatest public health problems are encountered. The teaching facilities and lists of equipment suggested below have been gathered from several sources including the World Health Organization, The Center for Disease Control and several Universities with Public Health School laboratory facilities.

BASIC EQUIPMENT NEEDS FOR A WATER/SANITARY LAB

<u>DESCRIPTION</u>	<u>ITEM</u> <u>(Make &amp; Model)</u>
1. Colorimeter or spectrophotometer - Some colorimetric analysis of metals and inorganics will require at least the higher wave-lengths in the UV range	B & L spectronic 20 or Coleman Jr-II
2. Nephelometer - Can be "eye or color matching" or electric photomultiplier	Hellige Pacific Scientific
3. pH meter - Preferably the "ionalyzer" type which uses pH, specific ion, and gas sensing electrodes	Orion Model 407 A/P (excluding electrodes)
4. Combination conductivity and salinity meter	S-C-T (battery)
5. Oxygen analyzer - Preferably combination electrode for liquid or gaseous analysis	YSI - 54APB
6. Balances and calibration weights	Mettler
7. Oven and/or incubator, Muffle furnace desirable; power controller	Precision Thermodyne 1300 or 1400
8. H <sub>2</sub> O Still and/or Ion-exchange resin system for purified H <sub>2</sub> O	Barnstead Varied
9. Hydrometers - A set to cover ranges 0.600-2.000 Baume	Purico 807

10. Microscope - Single lenspiece  
Teaching) MO Series 151 (Phase
11. Filtration devices for wide  
range of filters and crucibles Millipore - Buckner
12. Ion specific electrodes for:  
Cl<sup>-</sup> Redox Ca(CO<sub>3</sub>)<sub>2</sub>  
F<sup>-</sup> CA<sup>NO.</sup> Br<sup>-</sup>  
Na<sup>+</sup> NO<sub>3</sub><sup>-</sup> Cu<sup>NO.</sup>  
K<sup>+</sup> SO<sub>4</sub><sup>2-</sup> NH<sub>3</sub>Cl  
I<sub>2</sub><sup>-</sup>, I<sub>3</sub><sup>-</sup> Orion Research  
K<sup>+</sup> NO<sup>+</sup>  
Pb<sup>NO.</sup> NaHCO<sub>3</sub>  
Need most if not all
13. Membrane electrodes for: Orion Research  
NH<sub>3</sub> Perchlorate  
NO Total Divalent cation  
SO<sub>2</sub>
14. Hot plates, Bunsen burners  
and/or heating devices Varied  
Sci. Products
15. Aspirator pump for at least mild  
vacuum and compressed air Gast P & 401-1
16. Thermometers and barometers
17. Low T<sup>o</sup> incubator - BOD  
(controlled refrig 20<sup>o</sup> C) Precision 31213
18. Freezer Sears
19. Cuvettes, Nessler tubes, BOD bottles  
flasks, volumetric flasks, test tubes,  
beakers, pipettes, grad cylinders,  
separatory funnels, petri dishes,  
culture tubes and bottles.  
Lab in Zaire: Nutrition component
- I. Classroom equipment
1. One large blackboard
  2. Chalk and eraser
  3. Carousel projector
  4. Overhead projector
  5. Screen
  6. Film projector
  7. Slide collection
    - a. Vitamin deficiencies
    - b. Nutritional assessment
    - c. Water & electrolyte balance

**II. Manuals, Textbooks**

1. Nutrition textbook (1 per student)
2. Nutrition reference books
3. Journals
  - a. Nutrition journal
  - b. Monographs

**III. Course Supplies**

**A. Nutritional Assessment**

- 1) Adult scales (2)
- 2) Infant scales (2)
- 3) Food scales (2)
- 4) Height boards (2) adults
- 5) Height boards (low type) (2) infants
- 6) Height boards (2) children
- 7) Skinfold calipers  
(donated by pharmaceutical company?)
- 8) Measurement tapes for calipers  
(donated by pharmaceutical company?)
- 9) Nutritional Assessment forms  
(donated by pharmaceutical company?)
- 10) Noose type ARM circumference tapes

EQUIPMENT AND MATERIALS FOR  
LABORATORY DIAGNOSTIC SERVICES IN PARASITOLOGY

For routine diagnostic services in parasitology, both blood and intestinal parasites, a laboratory should have the following in addition to the usual glassware and chemicals ordinarily available. Certain items listed are used in specific procedures and if the laboratory does not perform the procedure, these items can be omitted.

NON-EXPENDABLE

1. Microscope(s) with adequate illumination and calibrated micrometer.
2. Centrifuge - either table or floor model. The centrifuge should not be an angle-head model.
3. Incubator, 37° C. Optional; however, an incubator is essential if fecal cultures are done.
4. Refrigerator - ordinary household model.
5. Exhaust hood - desirable, but not essential.

EXPENDABLE

1. Applicator sticks, wooden.
2. Blood lancets, disposable.
3. Bottle of immersion oil, low viscosity.
4. Cotton swabs.
5. Coverslips, 22 mm. square, No. 1 and No. 0 thickness.
6. Dispensing or squeeze bottles, 250 ml.
7. Dropping bottles - physiological saline.
  - Dobell's or D'Antoni's iodine (or Lugol's diluted 1:5).
  - Buffered methylene blue or Quensel's stain.
  - methyl alcohol (for blood staining).

8. Facial tissue.
9. Forceps.
10. Funnels, small or 4 oz. conical cups with tips cut off.
11. Gauze squares - approximately 6 inch squares for straining fecal specimens. (If mesh is narrow or fine, 1 thickness is sufficient, if mesh is wide, 2 thicknesses will be necessary.)
12. Gauze squares - 2 x 2, sterile (for cleaning fingers).
13. Hand Lens.
14. Hot plate.
15. Labeling pens or markers.
16. Lens paper.
17. Microscope slides - 3 x 1 inch, plain.
  - 3 x 1 inch, frosted ends.
  - 3 x 2 inch.
18. Pipettes, capillary (Pasteur), 5-3/4 inches long, disposable.
19. Pipettes, serologic - 1 ml, 5 ml, 10 ml.
20. Rubber bulbs for capillary pipettes.
21. Scotch tape, clear, 3/4 inch width (for pinworm preparations).
22. Staining dishes, coplin, 50 ml capacity, with lids.
23. Slide boxes - 50 or 100 capacity.
24. Slide folders - to hold 20 3 x 1 slides; to hold 10 3 x 2 slides.
25. Slide labels.
26. Timer.
27. Tongue blades.
28. Vaseline-paraffin (in beaker).
29. For formalin-ether or acid-ether techniques:
  - a. Centrifuge tubes, 15 ml pointed, preferable graduated.
  - b. 4 oz. flat-bottom paper cups (or small beakers).
  - c. Rubber stoppers, No. 0 to fit tubes.
  - d. Rack to hold 15 ml tubes.
30. Zinc sulfate technique:
  - a. 100 x 13 mm. tubes.
  - b. Rack to hold tubes.
  - c. Wire loops.

SOLUTIONS AND CHEMICALS

The individual chemicals or dyes needed to make the various solutions are not listed; however, certain compounds which must be readily available are listed. Some of the items are particular to certain procedures and may not be needed by every laboratory.

1. Alcohols:
  - a. Ethyl alcohol - 70, 95, and 100%.
  - b. Methyl alcohol - absolute
  - c. Acid alcohol - for trichrome stain.
2. Buffers, stock M/15 solutions (for blood staining).
  - a. Sodium dihydrogen phosphate.
  - b. Disodium hydrogen phosphate.
3. Carbol-xylene.
4. Distilled water.
5. Ether - anesthesia or technical grade.
6. Ferric alum crystals - if hematoxylin stains are used. (Store in refrigerator.)
7. Formalin - 5% and 10%.
8. Glacial acetic acid.
9. Glycerin
10. Immersion oil, low viscosity.
11. Iodine crystals.

(Note: To prepare Dobell's, D'Antoni's, or Lugol's iodine, the crystals are added to KI at the time of use. However, a strong iodine-alcohol solution (for staining) can be prepared, stored in a brown bottle (for several weeks) and diluted with 70% alcohol to the proper color at the time of use.
12. Physiological saline.
13. Potassium iodide - 2% (5% if Lugol's is used).
14. PVA-fixative solution.
15. Phosphotungstic acid, 2% - if used in the staining procedure employed.
16. Permout or similar mounting medium.
17. Schaudinn's fixative.
18. Stains:
  - a. Buffered methylene blue or Quensel's.
  - b. Giemsa.
  - c. Trichrome or stock hematoxylin or chlorazol black E.
19. Xylene.
20. Zinc sulfate, sp. grav. 1.18 - if technique is used.

Laboratory for adaptation of diagnostic tests for field use.

Using short term consultants with experience in low cost diagnostic field laboratory development a special effort will be made to adapt this material for Zairian circumstances and include same in the training program.

## II. Financial Analysis and Plan

The proposed grant is non-revenue producing. In view of the serious lack of senior level public health professionals and a rapidly growing population, the project is the least costly approach to providing Zaire with adequate numbers of physicians, nurses and administrators able to plan and implement public health interventions. A School of Public Health in the UNIKIN will allow the GOZ to train professionals locally at 10-15 percent of the cost of overseas programs. Table 2 summarizes the projects costs by category of expenditure and source.

1.0 Technical assistance is the largest line item in the budget and represents over 45 percent of U. S. dollar expenditures. Long term expatriate staff in Zaire is 12 person years, and decreases from a high of four in year one, to one person in year five. No long-term technical assistance is programmed for years 6-10. Short-term technical assistance follows a similar pattern and ranges from 31 person-months during the crucial start-up year and decreases to ten person months during years four and five. The project will also support one full-time faculty position on the campus of the contracting university during the first year. This individual will be responsible for the coordination and supervision of academic programs for Zairians in Diploma programs, production of training materials and equipment, and fiscal management. This is reduced to a half-time position in subsequent years.

Counterpart funds will support 6 full-time persons in administrative and other positions (e.g. secretaries, drivers, maintenance). These individuals will be the support staff for the technical assistance team. Funds will also be used to pay for part-time translators, interpreters (Zairian languages) and local consultants. Long term technical assistance is estimated at \$150,000 dollars a year and the cost for short-term personnel is \$14,000 a person-month. These figures include salaries, retirement and medical benefits, post differential, housing and transportation. University overhead is included in the cost of technical assistance and estimated at 60 percent. The total cost for expatriate technical assistance is about 3.6 million dollars. Counterpart funds for the T. A. support staff average just over 600,000 zaires a year during the first five years and decreases to about 120,000 zaires per annum in years 6-10.

GOZ expenditures for faculty and staff begin at 840,000 zaires and increase to over 2 million zaires per year in year three. Total GOZ expenditures for faculty and staff is over 22 million zaires for the ten year period.

### 2.0 Training

2.1 Overseas Training is the second largest U. S. dollar cost (about 1.2 million dollars) and represents about 15 percent of the foreign exchange budget. Most of these funds will be used to support 10 Zairians enrolled in doctoral programs at the contracting university and other universities in the U.S. and possibly Europe. Training at other universities is considered desirable since it will expose the Zairian faculty to a diversity of educational programs and thus provide them a wider basis from which they can develop appropriate programs for the new school. Forty three Zairians will attend two-to-three month intensive, graduate level training in the U. S. A., Europe and Africa.

The selection of experienced medical and health personnel for overseas training will facilitate completion of course work for doctoral degrees within a twelve month period. Zairian candidates for doctoral programs will all have MPH degrees. The cost per year for degree candidates is estimated at \$28,000 dollars a year and included tuition, living expense and transportation. The cost of short-term overseas training is estimated at \$2,500 dollars a month to cover tuition and per diems. Transportation for participants will generally cost between \$1,000 and \$3,000. This item is budgeted at \$10,000 per three month training period.

Zairians in overseas training will continue to receive their salaries which in most cases will be used to support their families who remain in-country.

## 2.2 In-Country Training

Some GOZ-USAID counterpart funds will be used to help pay long and short-term training costs during the first five years. These funds will cover all training expenditures for the first two years and are gradually phased out as GOZ revenues are allocated for this purpose. GOZ contributions begin at 440,000 zaires in year three and increase to 780,000 zaires in year five and to more than 1.0 million zaires per annum during the last five years. Training costs include: stipends for students (at 22,000/monthly); books (22,000/short term trainees and 78,000 for long term students) and; transportation (25,000 per trainee in years one and two; 22,000 per trainee in years 3-5).

3.0 Commodities purchased in the U. S. include library and other reference material, microcomputers and software, laboratory equipment and supplies, videotape and photographic units, photocopying machines and office equipment. These will be used at the University and at field training sites. They may be viewed as part of the direct cost of training Zairians. The expenditure for commodities purchased in the U. S. is just under one million dollars and includes eight 4WD field vehicles (Jeeps).

GOZ counterpart funds amount to 7.2 million zaires over the life of the project and will be used to purchase furniture and equipment for classrooms, offices, dormitories, the cafeteria, the laboratory, library and educational materials. GOZ expenditures for commodities are estimated at 1.2 million zaires. They will be used to replace equipment and to purchase supplies.

## 4.0 Construction/Renovation

About 5.2 million zaires will be used to pay for renovation of the school building and field training sites. The work involves construction of internal walls and modifications in the electrical and part of the plumbing systems. The GOZ will also contribute 210,000 zaires to assist in these renovations.

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5.0 Travel and Project Coordination

Counterpart funds are also required to support travel within Zaire by faculty, expatriate technical staff and representatives of governmental and non-governmental health agencies. Specific activities supported by these funds include coordination of academic programs and field conditions, recruitment of candidates for long - and short-term training, applied research and the monitoring and evaluation of the school's graduates. The cost of these activities is estimated at 7.7 million Zaires in GOZ counterpart funds and about 1.1 million Zaires in direct GOZ expenditures.

6. Other costs

Support from the counterpart budget to agencies cooperating with the school's programs is Z 800,000. The money will be used to assist them to defray the cost of administration, travel and other expenses related to project activities.

Inflation is calculated at 7 percent and compounded annually for the USAID and GOZ/USAID counterpart budgets. Contingency costs are calculated at 20 percent.

FINANCIAL TABLES

TABLE 1

Summary Costs and Financial Plan  
Ten Year Costs by Source

	(A)	(B)	(C)	(D)	(E)
	USAID	GOZ/USAID	GOZ	\$ equiv.	(A) + (D)
	(\$000)	CPF (Z000)	(Z000)	(\$000)	TOTAL \$US (\$000)
1. Technical/ Assistance (Staff)	3610	(3920)	(22340)	821	4431
2. Training	1250	(4470)	(7200)	365	1615
3. Commodities	990	(7200)	(1210)	263	1253
4. Construcrion/ Renovation	0	(5230)	(210)	169	169
5. Travel/Per Diems	100	(7700)	(1140)	276	376
6. Other Costs	0	(5300)	(810)*	191	191
7. Inflation 7% compounded	979	-	-	-	979
8. Contingency (20%)	1386	(5164)	-	161	1547
TOTAL	8315	(38,984)	(32,910)	2246	10,561
TOTAL IN U.S. DOLLAR EQUIVALENT	8315	1,218	1,028	2246	10,561

\*In addition to the costs listed above there is a GOZ in-kind contribution of a building worth about \$940,000 (30 million zaires), and office/laboratory equipment worth about \$45,000 (1.5 million zaires) for a total in kind contribution of Z31,500,000 or U.S. \$985,000.

Total U.S. dollar costs for the ten years are just over 8.3 million dollars and the value of the GOZ contributions (GOZ and CPF, GOZ revenues and in-kind contributions) is about 104 million zaires (approximately 3.5 million dollars). This comes to slightly more than 30 percent of the project costs. Table 2 shows the contributions by year from the different sources.

\*32 zaires = US \$1.00.

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TABLE 2

Expenditures by Year

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>TOTAL</u>
AID FX (\$000)	2249	1592	1346	965	692	\$US 6844
GOZ/AID CPF (2000)	8000	9497	6816	5328	3828	Z 33464
GOZ LC (2000)	920	1740	2710	3170	3420	Z 11960
In Kind (2000)	31500	0	0	0	0	Z 31500

Budget tables 3, 4 and 5 show the cost for each category of expenditure and funding source. A financial plan is presented for years 1-5 and the estimated costs for years 6-10 are listed in a single column. Almost 50 percent of U.S. dollar expenditures will occur during the first two years (about 3.8 million dollars) to support intensive technical assistance and most commodity purchases. During the last five years dollar costs average less than \$300,000 a year. The flow of GOZ-AID counterpart funds follows a similar pattern--about 17.5 million zaires during years one and two and averaging about 1.1 million zaires per annum in years 6-10.

The flow of direct GOZ expenditures (excluding the in-kind contribution) follows the opposite pattern. During year one, GOZ revenue expenditures are less than 1.0 million zaires and increase to over 3.1 million zaires in year four and to more than 4.0 million zaires per annum in years 6-10.

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TABLE 3  
U.S. DOLLAR BUDGET (\$000)  
(costs rounded to nearest \$10,000)

	1	2	3	4	5	TOTAL YEARS 1-5		TOTAL YEARS 6-10		TOTAL
						\$000	Person Months	\$000	Person Months	10 YRS
<b>1.0 TECHNICAL ASSISTANCE</b>										
1.1 Long Term (\$12,500/PM)	600	450	300	300	150	1800	(144)	0	(0)	1800
1.2 Short Term (\$14,000/PM)	440	280	210	140	140	1210	(86)	420	(30)	1630
1.3 USA Coord (\$40,000/yr.)	40	20	20	20	20	120	(36)	60	(18)	180
SUBTOTAL	1080	750	530	460	310	3130	(266)	480	(48)	3610
<b>2.0 OVERSEAS TRAINING</b>										
2.1 Long Term(MPH/PhD) \$28,000/year	224	280	280	56	0	840	(360)	0	(0)	840
2.2 Short Term(USA) \$10,000/per 3 months	30	40	30	30	30	160	(48)	100	(30)	260
2.3 Short Term(Europe/Africa) \$10,000/3 months	20	20	20	20	20	100	(30)	50	(15)	150
SUBTOTAL (2)	274	340	330	106	50	1100	(438)	150	(45)	1250
<b>3.0 COMMODITIES</b>										
3.1 Library books, Journals, Reprints	60	40	30	20	10	160		30		190
3.2 Microcomputers/Supplies	40	20	20	10	10	100		30		130
3.3 Lab Equipment/Supplies	90	30	20	20	20	180		30		210
3.4 Office/Classroom, Equipment/Supplies	50	40	30	20	20	160		40		200
3.5 Household Equipment (3 families)	100					100				100
3.6 Vehicles (8 Jeeps 4WD diesel)	160					160				160
SUBTOTAL (3)	500	130	100	70	60	860		130		990
<b>4.0 ADDED TRAVEL/PER DIEMS</b>										
4.1 Travel	10	10	10	10	10	50				
4.2 Per Diems	10	10	10	10	10	50				
SUBTOTAL (4)	20	20	20	20	20	100				100
<b>5.0 SUBTOTAL (1.0 - 4.0)</b>										
	1874	1240	980	656	440	5190		760		5950
<b>6.0 INFLATION (7% compounded)</b>										
	0	87	142	148	137	514		465		979
<b>7.0 CONTINGENCY (20%)</b>										
	375	265	224	161	115	1140		246		1386
<b>TOTAL COST</b>										
	2249	1592	1346	855	692	6844		1471		8315

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TABLE 4

GOZ/USAID COUNTERPART FUNDS  
(Z000)

	Annual Sal/Be	1	2	3	4	5	TOTAL years 1-5	Years 6-10	10 YR TOTAL
<b>1.0 PERSONNEL</b>									
1.1 Administrator Bilingual	(80)	80	80	80	80	80	400		
1.2 Bilingual Secretary	(40)	40	40	40	40	40	200		
1.3 Secretary (Senior Level)	(30)	30	30	30	30	30	150		
1.4 Secretary (Junior Level)	(10)	10	10	10	10	10	50		
1.5 Part-time (Translations)		150	200	150	100	50	650		
1.6 Consultants		150	150	150	100	100	650		
1.7 Chauffeur-Mechanic	(30)	30	30	30	30	30	150		
1.8 Chauffeur	(20)	20	20	20	20	20	100		
1.9 Research Assts./ Interpreters		190	240	240	150	150	970		
SUBTOTAL (1)		700	800	750	560	510	3320	600	3920
<b>2.0 TRAINING/APPLIED STUDIES</b>									
2.1 Scholarships/Stipends (Z2000/month)		160	640	320	360	180	1660		
2.2 Books/Supplies/Allowance (Z2000 ST, Z8000 LT)		80	270	270	360	180	1160		
2.3 Travel		200	320	160	180	90	950		
2.4 Other/Misc.		80	130	130	180	180	700		
SUBTOTAL (2)		520	1360	880	1080	630	4470	0	4470
<b>3.0 COMMODITIES</b>									
3.1 Books/Training Materials		300	300	200	200	100	1100		
3.2 Lab/Office Supplies		200	200	150	150	100	800		
3.3 Office Furniture/Supplies/ Equipment		400	200	150	100	50	900		
3.4 Furniture/Supplies- Classroom/Library		500	200	200	100	50	1050		
3.5 Furniture/Supplies- Dorms/Cafeteria		1000	500	300	150	100	2050		
3.6 Spare Parts (Vehicules)			50	50	100	100	300		
SUBTOTAL (3)		2400	1450	1050	800	500	6200	1000	7200

<b>4.0 CONSTRUCTION/RENOVATION</b>									
4.1 UNIKIN Buildings	2200	1500	500	200	100	4500			
4.2 Field Centers	180	300	100	100	50	730			
SUBTOTAL (4)	2380	1800	600	300	150	5230	0	5230	
<b>5.0 TRAVEL/PER DIEMS</b>									
5.1 Travel	600	700	600	400	300	2600			
5.2 Per Diems	700	800	700	500	400	3100			
SUBTOTAL (5)	1300	1500	1300	900	700	5700	2000	7700	
<b>6.0 OTHER COSTS</b>									
6.1 Diesel Fuel	400	700	800	600	500	3000			
6.2 Support to Other Agencies	200	200	200	100	100	800			
6.3 Representational Allowance	100	100	100	100	100	500			
SUBTOTAL (6)	700	1000	1100	800	700	4300	1000	5300	
SUBTOTAL (1.0 - 6.0)	8000	7910	5680	4440	3190	29220	4600	33820	
7.0 CONTINGENCY/INFLATION (20% - non-compounded)	0*	1582	1136	888	638	4244	920	5164	
TOTAL	8000	9492	6816	5328	3828	33464	5520	38984	
DOLLAR EQUIVALENT (\$000)	250	297	213	166	120	1046	172	1218	

\* Year one: no contingency budget since delays in hiring will yield sufficient extra funds.

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TABLE 5

ESTIMATED GOZ INPUTS (2000)  
(Includes UNIKIN, MOH and other agencies)

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>TOTAL</u>	<u>YEARS 6-10</u>	<u>TOTAL 10 YEARS</u>				
1.0 Personnel													
1.1 Faculty	number	(4)	(10)	(14)	(14)	(14)	(14)	(18)	(18)				
	cost	800	1,400	1,880	1,940	2,000	8,020	11,000	19,020				
1.2 Support Staff	number FT	(3)	(19)	(20)	(22)	(24)	(24)	(28)	(28)				
	cost	40	240	260	330	350	1,220	2,100	3,320				
		(7)	(29)	(34)	(36)	(38)	(38)	(46)	(46)				
SUBTOTAL 1		840	1,640	2,140	2,270	2,350	9,240	13,100	22,340				
2.0 Training/Research													
2.1 Stipends/Scholarships (long and short term)													
	UNKIN			9/	125	15/	190	15/	190	39/	505		
	OTHER			23/	295	40/	470	55/	560	95/	1,325		
								4,800			39/	505	
												6,125	
2.2 Research Funds				20	20		30	70	500			570	
SUBTOTAL 2		0	0	32/	440	55/	680	70/	780	134/	1,900	5,300	7,200
3.0 Commodities (equipment, books, supplies)		30	30	40	50		60	210	1,000			1,210	
4.0 Construction/Renovation		0	0	0	30		30	60	150			210	
5.0 Missions/Travel		20	20	40	60		100	240	900			1,140	
6.0 Other Costs		30	50	50	80		100	310	500			810	
SUBTOTAL (1-6)		920	1,740	2,710	3,170	3,420	11,960	20,950				32,910	

7.0 In-Kind Contributions									
7.1 Building for School	30,000					30,000			30,000
7.2 Equipment	1,500					1,500			1,500
SUBTOTAL 7	31,500					31,500			31,500
TOTAL VALUE OF GOZ INPUTS (direct cost plus in-kind)	32,420	1,740	2,710	3,170	3,420	43,460	20,950		64,410
Equivalent in \$U.S. (000)	1,013	54	85	99	107	1,358	655		2,013

### ECONOMIC ANALYSES

The purpose of this analysis is to determine the economic feasibility of upgrading the Department of Public Health to a school. The benefits of most education and health projects are raised and are more easily described in qualitative terms than quantitative. Recurrent costs are a source of potential concern. In view of these considerations, several approaches have been taken to evaluate the economics of this project.

Before discussing the actual analyses conducted, the basic assumptions underlying the analysis need to be defined, along with a preliminary discussion of the benefits and costs associated with the project.

#### Assumptions:

The following set of assumptions defines the parameters within which the economic analysis is conducted:

- social discount rate: To determine the opportunity cost of capital consideration has been given to the following: interest rate set for agricultural credit (15 per cent), re-discount rate set by the Bank of Zaire (25 per cent), liberalized interest rate on other type of credit (30 to 50 per cent) constrained by ceilings on capital allocations, and the fact that this is an investment in a public project rather than a private investment. Consequently, the social discount rate is valued at 25 percent.

- time horizon: The analysis is carried out for a period of 10 years. At a 25 per cent cost of capital, discounted values become relatively insignificant after that time.

- Costs: All values are denominated in constant 1983 prices. Zaire costs valued in terms of dollars are converted at the rate of 232/\$1. For the least-cost analysis, all monetary values are converted to dollars. In the recurrent cost analysis, all values are denominated in zaires at 1983 prices.

#### Benefits

A number of benefits are attributable to this project. The increase in the education level available to health workers in Zaire is perhaps the most obvious benefit. It increases the health workers' effectiveness and productivity and offers them an opportunity to increase their standard of living by raising their income earning capacity.

A school of Public Health in Zaire has other advantages. It offers public health students the opportunity to become more familiar with Zaire-specific or Central Africa-specific public health problems. In addition, it allows for the development of a permanent, in-country resource center for public health. As a result of the training, the health care available in Zaire should be an improvement both on the technical level and in terms of the efficiency achieved in the clinics with the trained personnel. The population has increased access to medical care, which can in turn diminish the severity of certain illnesses, reduce the occurrence and transmissions of disease, and increase the population's overall productivity.

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## Cost

There are quantifiable and non-quantifiable costs associated with this project. Non-quantifiable costs are considered elsewhere in this paper. Quantifiable costs can be divided into two major categories: the investment costs and the recurrent costs. The investment costs will be primarily financed by AID dollar inputs and will comprise training of teachers, technical assistance, and initial commodity purchases for the school, i.e. vehicles, spare parts, tools, and materials and equipment for the library, laboratory, and offices.

Recurrent costs will primarily be the responsibility of the GOZ. During the 10 years of AID's participation in the project, these costs will be payable in zaires and will include faculty and clerical salaries, student stipends, in country travel, building maintenance, and operation of a field training facility.

Once AID has completed its participation in the project, the GOZ's recurrent cost responsibilities will expand to include replacement of vehicles and spare parts, commodity procurement for the library, laboratory, and offices, some of it payable in foreign exchange. The financing of these costs will be discussed in a later section devoted to recurrent costs.

## Least Cost Analysis

This project was developed in response to the apparent need for trained public health workers in Zaire. Health facilities are said to be severely understaffed and a pipeline of qualified persons to fill the positions has not been identified.

A least-cost or cost-effective approach examines alternative means of achieving a project's planned outputs. The initial assessment of competing project designs is made on the basis of the minimum net discounted cost in producing this output.

For this analysis, output is narrowly defined as the number of people trained annually by the project. Through participant training the project is expected to train overseas 10 individuals in Public Health at the PhD level, and offer short term overseas training to 43 persons. Once established, the school is expected to train indigenously 25-30 students per year at the Certificate in Public Health level, and 60 per year in short term training.

The project scheme is to send individuals abroad for training so that they can in turn provide short-term, undergraduate, or graduate-level training to students at the School of Public Health in Zaire. Their efforts will be supplemented by expatriate technical assistance.

There are several alternatives to this approach of training Zairians in public health. Consultants could be brought to Zaire to teach at the University's Department of Public Health. The draw-back of course is that such a system would last indefinitely, thus creating a dependency on external sources. Another option is to send students to the United States, Europe, or other African countries to receive training. The draw-back in this case is that this is a very expensive proposition and there is no opportunity for

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institution-building. The costs of different training programs are depicted in table 8. In table 9, the costs per student for each training approach are multiplied by the expected SPH output per year for 10 years and discounted to present value. Upon comparison of the alternatives, we find that the cost of training is only moderately less than that of training overseas. However, a number of other factors must be considered before drawing conclusions from these results. In the ten year project life, the intangibles of indigenous institution building may be assumed to decisively weigh towards the project alternative, provided the project is sustainable.

Recurrent Cost Analysis

This section focuses on the prospects of project sustainability once AID assistance is completed. Zaire's budgetary situation, temporarily compounded by IMF restrictions on public spending within the framework of the stand-by agreement, requires the examination of the recurrent cost requirements for this project. The recurrent costs will consist of the total annual flow of expenses, both in local and foreign currency, which will need to be financed by the GOZ once USAID participation in the project is completed. During the 10 year life of project, the GOZ will be expected to cover local personnel salaries, in-country student living expenses and stipends, in-country travel, allowances and per diems, and building maintenance.

Once AID participation ends, however, GOZ financing responsibilities will be expanded to include the cost of updating the library, replenishing office supplies, replacing laboratory equipment and vehicle parts, with the possibility of financing some short-term technical assistance, and perhaps more overseas training for Zairians.

As mentioned in the financial plan, most expenditures will be covered in the first 2 years of the project. Therefore the level of expenditures for recurrent cost items was assumed to be roughly analogous to annual expenditures for the years 6-10. The counterpart funds and GOZ budgetary expenditures required for recurrent costs are drawn from Table 3 and presented below.

Recurrent Cost Expenditures (1983 prices)

Local Currency (2000)

	<u>Total Years 6-10</u>	<u>Annualized Expenditures</u>	<u>Post Project Annual Expenditures</u>
<b>Personnel:</b>			
CP	600	120 <sup>1</sup>	
GOZ	13,100	2,620	2,620
<b>Commodities:<sup>2</sup></b>			
CP	1,000	200	
GOZ	1,000	200	400
<b>Stipends/Scholarships:</b>			
CP	0	0	
GOZ	4,800	960	960

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Travel/Per Diem:			
CP	2,000	400	
GOZ	900	180	580
Construction/Renovations:			
CP	0	0	
GOZ	150	30	30
Research Funds:			
CP	0	0	
GOZ	500	100	100
Other Costs:			
CP <sup>3</sup>	1,000	200	
GOZ	500	100	300
TOTAL (Z000)	24,500	5910	5190

Foreign Exchange (\$000)

	<u>Total Years 6-10</u>	<u>Annualized Expenditures</u>	<u>Post Project Annual Expenditures</u>
Commodities:	130	26	26

Notes:

<sup>1</sup> Counterpart funded personnel are to provide logistical support to the technical assistance and will be eliminated at the end of the project.

<sup>2</sup> includes diesel fuel, support to other agencies, representational allowances.

<sup>3</sup> includes equipment, books, supplies.

The annual recurrent costs will be Z5,190,000, plus \$26,000 in foreign exchange. Personnel costs will account for over 50% of this total. For years 6-10, about 18% of recurrent costs will be covered by counterpart funds.

Funding could come from a number of different sources. At present, the two main organisms in the GOZ receiving University-related funds are the Department of Higher Education and the University of Kinshasa. The salaries of the University professors are financed through the Department of Higher Education where, as with other GOZ agencies, financial allocations for salaries claim a relatively large share of the budget. For the majority of operating expenses, the University of Kinshasa receives a separate budget from the GOZ. Other university-related expenses are budgeted under department entities such as Intendance Generale, the University Board of Administration, and the Fond pour la Restauration. Levels of expenditures for the Department of Higher Education are represented in the following table:

Department of Higher Education: Operating Budget  
(in Zaires)

<u>Year</u>	<u>Total Budget</u>	<u>National Personnel</u>	<u>Expatriate</u>
1980	129,840,392	112,792,442	11,610,491
1981	155,908,590	126,420,570	19,575,134
1982		224,004,591	19,725,924
1983	308,630,505	246,405,050	21,698,516

Although the budgets have been increasing in nominal terms, given the inflation rate prevailing in Zaire's economy, in real terms there has been an absolute decline in budgetary expenditures.

Professional salaries will amount to 22,620,000 by 1989, (in 1983 prices) only about one percent of the Department of Higher Education's current budget for university salaries. Even here, considering the decline of the University system expenditures in real terms and the efforts currently being made to control the ballooning GOZ budget (particularly in the area of salaries) there is some uncertainty as to whether the School of Public Health can rely on continuous and adequate funding through the budgetary channels of the GOZ. Non-salary recurrent costs will amount to 22,570,000 per year (in 1984 prices). This represents just over 10% of UNIKIN's total 1984 budget of 225,000,000. It may be necessary for the SPH to develop its own sources of local revenues to help defray non-salary overhead.

There do exist several potential sources of revenue, including some which may provide foreign exchange. One possibility is for the School to obtain research grants or contracts from such organizations as pharmaceutical companies to study health problems specific to equatorial Africa. Another possibility is to offer students from francophone Africa the opportunity to study at an established School of Public Health in Africa. As it is, there are only a few francophone schools of Public Health, almost all of which are located in Europe. If the University of Kinshasa School of Public Health can maintain the standard of international Public Health Schools, coming to Zaire would be very attractive to an African student, for reasons of cost savings in travel and living expenses and for the Africa perspective that a School in Zaire can offer.

A third possibility is the interest that other donor projects and private voluntary organizations might have in sending their public health trainees to a School of Public Health in Zaire. Finally there is the possibility of receiving continued financial or technical assistance from other donors such as the WHO. All these possibilities, however, are contingent on the degree of professionalism the school can develop in order to attract international recognition and support.

Table 6

Project Costs<sup>1</sup>

<u>Year</u>	<u>AID Inputs</u> Dollars	<u>Local Currency Inputs</u>		<u>Total Costs</u>
		Zaires	Dollar equiv. (2)	
Dollars				
1	1,874,000	40,420,000	1,263,000	3,137,000
2	1,240,000	9,650,000	302,000	1,542,000
3	980,000	8,390,000	262,000	1,242,000
4	656,000	7,610,000	238,000	894,000
5	440,000	6,610,000	207,000	647,000
6	152,000	5,110,000	160,000	312,000
7	152,000	5,110,000	160,000	312,000
8	152,000	5,110,000	160,000	312,000
9	152,000	5,110,000	160,000	312,000
10	152,000	5,110,000	160,000	312,000
TOTAL	5,950,000	98,230,000	3,070,000	9,020,000

(1) Excludes contingency and inflation. Figures have been rounded.

(2) Figures have been converted at the rate of Z32 = \$1

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Table 7

Total Number of Students in Training Each Year

<u>Year</u>	<u>Long-Term Training</u>		<u>Short-Term Training</u> <sup>(1)</sup>		
	<u>Undergraduate</u> <sup>1</sup>	<u>Graduate</u>	<u>1 mo.</u> <sup>2</sup>	<u>2 mo.</u> <sup>3</sup>	<u>3 mo.</u> <sup>4</sup>
1	0	8	150	40	6
2	0	34	180	40	6
3	0	34	200	60	5
4	0	32	220	60	5
5	0	30	240	60	3
6	6	30	260	60	3
7	6	30	260	60	3
8	6	30	260	60	3
9	6	30	260	60	3
10	6	30	260	60	3

(1) Assumes the public health training abroad is limited to one year.

(2) Number of undergraduates from other departments who will take courses at the SPH. Assumes that 1 semester - long course is comparable to a 1 month undergraduate training season abroad.

(3) Number of students who will take short-term courses at the school of public health.

(4) Number of students who will follow an average of 3 month training abroad.

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Table 8

Estimated Costs per Student of Training at Different Institutions <sup>(1)</sup>

<u>Schools</u>	<u>ST Training</u> <sup>(2)</sup>			<u>LT Training</u> <sup>(3)</sup>
	1 mo. <sup>4</sup>	2 mo.	3 mo.	
Cotonou, Benin (2 yrs)	\$2,550	\$4,950	\$6,675	\$36,000
Brussels, Anvers, Louvain Belgium	\$3,650	\$5,300	\$6,950	\$18,500
Tulane University, USA	\$4,200	\$5,400	\$6,600	\$15,000

Notes: (1) Includes tuition, airfare, books, room and board, living stipend.

(2) Africa: - undergraduate: \$1,050/mo. tuition.  
 - \$1,725/mo. tuition  
 - \$1,500 airfare

Belgium: - \$1,650/mo. tuition  
 - \$2,000 airfare

Tulane - \$1,100/mo. tuition  
 - \$3,000 airfare

(3) Total costs to complete the degree; Cotonou has a two year program while the others have one year programs; figures do not include the usual intermediary fee.

(4) Training fee is for undergraduates.

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Table 9

Annual Costs of Studying at Different Financial Institutions  
(in U.S. dollars)

<u>Year</u>	Cotonou		Brussels		Tulane	
	short-term	long-term	short-term	long-term	short-term	long-term
1	620,550	288,000	801,200	148,000	885,600	120,000
2	697,050	1,224,000	910,700	629,000	1,011,600	510,000
3	840,375	1,224,000	1,082,750	629,000	1,197,000	510,000
4	891,375	1,155,750	1,515,800	592,000	1,281,000	480,000
5	929,025	1,080,000	1,214,850	555,000	1,351,800	450,000
6	980,025	1,152,000	1,287,850	666,000	1,435,800	540,000
7	980,025	1,152,000	1,287,850	666,000	1,435,800	540,000
8	980,025	1,152,000	1,287,850	666,000	1,435,800	540,000
9	980,025	1,152,000	1,287,850	666,000	1,435,800	540,000
10	980,025	1,152,000	1,287,850	666,000	1,435,800	540,000

source: Tables 7 and 8

Table 10

Total Annual Costs for Training at Different Institutions

(in U.S. dollars)

Year	Cotonou	Brussels	Tulane	Project
1	908,550	949,200	1,005,600	3,137,125
2	1,921,050	1,539,700	1,521,600	1,541,563
3	2,064,375	1,711,750	1,707,000	1,242,188
4	2,043,375	1,747,750	1,761,000	893,812
5	2,009,025	1,769,850	1,801,800	646,562
6	2,132,025	1,953,850	1,975,800	311,687
7	2,132,025	1,953,850	1,975,800	311,687
8	2,132,025	1,953,850	1,975,800	311,687
9	2,132,025	1,953,850	1,975,800	311,687
10	2,132,025	1,953,850	1,975,800	311,687

Source: Table 9

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Table 11

Total Annual Discounted Costs for Training at Different Institutions<sup>1</sup>

(in U.S. dollars)

<u>Year</u>	<u>Cotonou</u>	<u>Brussels</u>	<u>Tulane</u>	<u>Project</u>
1	726,840	759,360	804,480	2,509,700
2	1,229,472	985,408	973,824	986,600
3	1,056,960	876,416	873,984	636,000
4	836,966	715,878	721,305	366,105
5	658,960	580,510	590,990	212,072
6	558,590	511,908	517,659	81,662
7	447,085	409,722	414,325	65,360
8	358,180	328,246	331,934	52,363
9	285,691	261,815	262,757	41,766
10	228,126	209,062	211,410	33,750
TOTAL	6,386,873	5,638,329	5,704,671	4,984,981

(1) Using the social discount rate of 25%.

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D. Background Social Soundness Analysis; Sociocultural Context

Three major cultural-linguistic groups (Nilotic, Sudanic and Bantu) are found in Zaire and are further subdivided into more than 200 tribal and ethnic units. French is the official language although four Bantu languages also have special status.

Zaire's population is about 30 million with an annual growth rate of increase of about 2.8 percent. Endemic diseases and malnutrition account for most morbidity and mortality, and rates are highest among children under five years of age and pregnant women. While methods to prevent and treat the most prevalent diseases are well known, most Zairians have limited or no access to health information, services or medication. The health care system utilizes 80 percent of its budget in urban areas and the hospital based curative services reach less than 15 percent of the population.

Ecological conditions, social structures and belief systems are very diverse both between and within major administrative regions. While women are more directly involved in daily activities associated with health and nutrition, men occupy most positions in the traditional village medical systems. A health care infrastructure was established by missionaries during the colonial period and current patterns of medical beliefs and behavior combine elements of traditional and modern systems. Today, villagers still use local healers, midwives and medicinal herbs as well as modern health services and medicines.

2. Beneficiaries and Participation

Zairians who will initially benefit most from the program are those with prior professional training and experience -- physicians, nurses and those involved in health education, research and administration. Other direct beneficiaries include: students at the schools of medicine, nursing and allied health and senior level officials in urban and rural program. The research, training and consultant services of the school will strengthen the health infrastructure and the ability of staff to train and support field personnel. This, in turn, should result in new as well as more effective health services to the population at large.

### 3. Participation

Zairians have been significantly involved in all stages of project development. In 1982, a combined university-interministerial committee recommended the creation of a School of Public Health. They requested and received support from USAID who provided two public health experts to assist in the development of the PID. These experts worked with representatives from the Ministry of Higher Education, the Ministry of Health, the University of Kinshasa, the Church of Christ health service and USAID mission to develop the PID which was approved in September 1982. In November and December 1983, a three-person team composed of experts in public health education and training worked with the same group of Zairian and expatriate officials to prepare the Project Paper. The team consulted frequently with the University personnel who will be responsible for the administration and implementation of the project. Both the PID and PP teams made short visits to examine urban and rural health conditions and potential sites for future field training activities of the school.

Zairians will participate in project implementation as senior level administrators and faculty. Expatriate technical assistance is limited to four full-time persons during the first year and both long-and short-term expatriate staff will be gradually and largely phased out over the five-year period. The Project Paper calls for a start-up year in which Zairian faculty and representatives of governmental and non-governmental health agencies will direct and participate in the development of a detailed implementation plan for the school. This includes curricula, library, laboratory, field training, research and evaluation. The U.S. University selected to implement the contract will assist in this process rather than direct it.

Indirectly, this project should contribute to the increased participation of health care providers and communities in the planning and evaluation of health programs. This approach will be emphasized in courses of administration, health education and behavioral science. Students in degree and non-degree programs will be trained in the philosophy and methods of village participation and the coordination of multisectorial programs. This should result in increased local involvement in activities such as construction of health facilities, selection of village health workers, the construction of local water supply and sanitation systems. Furthermore, the evaluation methodology proposed for the project will include training in qualitative techniques to obtain information from community residents on health problems.

### 4. Project Impact/Spread Effects/Issues

The project should have a significant impact on the health sector which presently provides only limited services to a small percentage of the population. Analysis of health problems, manpower needs and health services indicate the need to strengthen the public health orientation of educational programs of physicians and other health professionals. The proposed school will establish the philosophy and institutional framework within which appropriate educational programs and personnel can be developed. This should result in more effective health interventions and a more efficient system of services. For example:

1. A major factor that prevents women from making a fuller contribution to development is the close succession of pregnancies. With less frequent pregnancies, significant changes could be expected for women with respect to literacy, employment options, earning capacity and contribution to the nation's productivity. Benefits would accrue immediately to the family in terms of food intake, housing and child schooling.
2. Chronic undernutrition in childhood not only results in stunted growth and development, but is believed to interfere with achievement of full mental potential. Better nutrition and reduction in frequency of debilitating diarrhea and other illnesses may result in a better response to schooling.
3. Recognition of improvement in health services, consistent availability of medicines, and support from hospitals and health centers would induce positive responses to health education, better health practices, and greater confidence in government services in general.
4. Training opportunities for personnel in the rural health centers would help to retain health professionals in rural areas. Thus, the inequity in availability of health services between urban and rural areas may be lessened.
5. As average longevity is increased by health promotion, society's investment in its citizens can reap fuller returns than is the case now with life commonly truncated in its prime.

Most Zairians trained by the school's faculty and graduates will be individuals involved in health and other development programs and will return to the same or similar positions. Other spread effects should be achieved through the school's research efforts and consultant services. In five years the project will train a sufficient number of Zairians to continue operation of core programs of the school. The school will not, however, have a sufficient number of faculty to conduct the full range of research and educational programs found in similar institutions in the U.S.A. and Europe.

Currently, few women occupy senior level positions in the Ministry of Health and there are no female faculty members in the University Department of Public Health. During the start-up year, the Zairian and expatriate staff will recruit qualified women health professionals for long and short term training. Upon completion of their education, some women will be qualified to fill new positions in the school and to occupy senior administrative jobs in the Ministries for health and higher education.

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F ENVIRONMENTAL CONSIDERATIONS

As stated in the approval PID, this project falls into those classes of actions which do not require an environmental impact and analysis.

ENERGY CONSUMPTION AND PRODUCTION

There are no major energy consumption/production elements to this project.

ANNEX 7

Expanded Description of Scope of Work for Advisors from Contracting U.S. University

Advisors from the Contracting U.S. university will work at the SPH with the regular faculty of the School and the faculty-in-training. The advisors will help to develop a public health school of high standard by the following types of activities.

1. Long-term advisors (one year to several years (continuity each))

- a. To help delineate the major objectives and basic philosophy of the SPH, in such consideration as:

Focusing on the public health needs in Zaire;

Emphasizing management and administration so as to place trained health administrators in charge of rural health zones as well as other levels;

Emphasizing on administrators and logistics to achieve wider coverage of the population with health services;

Integrating health services except where a vertical organization is indicated for special reasons;

Emphasizing rural preventive health services more so than curative services in urban hospitals;

Simplifying record systems and other procedures aiming for practicability and appropriateness;

Emphasizing the work of health workers, in the most peripheral areas, including adequately designing purposeful supervisory procedures;

Cooperating at the local level with workers from other agencies and with community leaders.

- b. Help design the Certificate in Public Health curriculum, to establish a balance between classrooms and field work, and insure that:

There is a balance between core courses and electives;

Individual students are assisted in developing detailed design of health projects aimed at actual problems in their respective part of Zaire;

Skills are acquired by the students through working on case materials;

A variety of pedagogic methods are used;

Students are expected to delve into the relevant literature and time is given to do so;

The Certificate in Public Health as the degree title would indicate, will represent broad general competence in public health, including knowledge of and skill in use of the basic disciplines of administration, biostatistics, epidemiology and social sciences as well as familiarity with the different special services and understanding of the roles and potentials of the various types of health workers.

- c. Help raise the public health sophistication and competence of SPH faculty by:

Working closely with individual counterparts over a long period of time;

Participating in team teaching;

Exchanging ideas and descriptions of respective experiences so as to arrive together at decisions on cultural and situational appropriateness;

Emphasizing evaluative methodology so that observations of health services can be analytical and critical.

- d. Assume direct teaching responsibility, especially during first round of presentation of any particular course and involve counterpart in course planning, participation and evaluation.

Emphasize the style of active student participation and individual and group performance in class.

- e. Keep the SPH faculty abreast of developments in public health and public health education by:

Bringing materials used in other schools;

Emphasizing literature reviews by faculty;

Utilizing library services extensively;

Encouraging participation in external seminars and conferences.

- f. Increase faculty skill in public health research and help the SPH to expand its research activities.

- g. Advise on the selection of persons for training abroad and on institutions to which to send them as well as on new faculty appointments at the SPH.

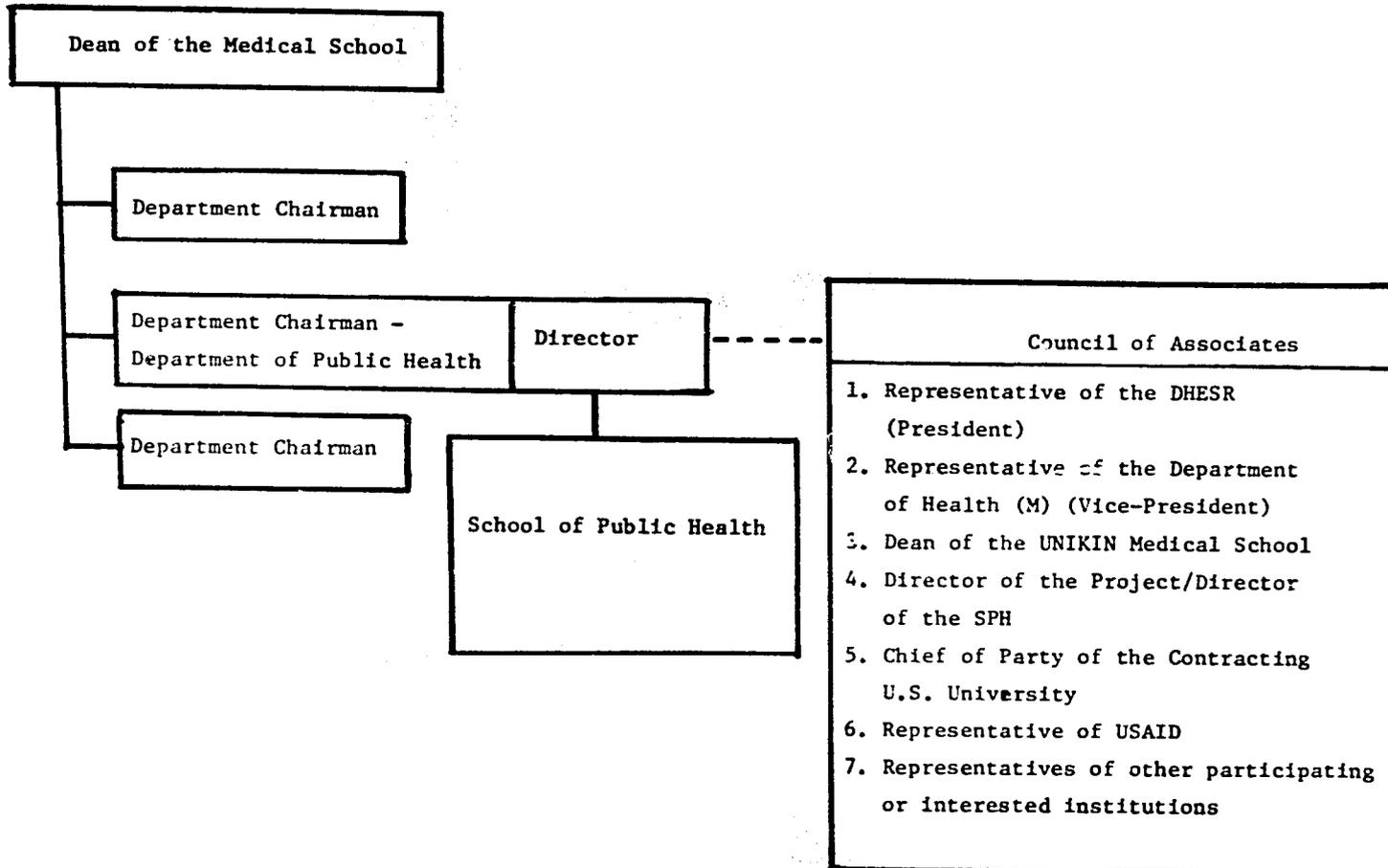
2. Short-term advisors

- a. Help develop special sections of the faculty through short-term intensive consultation with particular persons (e.g., microcomputer);
- b. Help develop and participate in short-term course offerings;
- c. Build up bibliographies on special topics and advise the School librarian on acquisitions;
- d. Give specialist consultation to students on their individual projects;
- e. Might interview certain candidates for specialty study and advise on their selection;
- f. Advise on special research questions.

In addition, advisors will assist in development of the school library, laboratories, and field training areas.

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Organization Chart of the Council of Associates



1. Representative of the DHEER (President)
2. Representative of the Department of Health (M) (Vice-President)
3. Dean of the UNIKIN Medical School
4. Director of the Project/Director of the SPH
5. Chief of Party of the Contracting U.S. University
6. Representative of USAID
7. Representatives of other participating or interested institutions

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