

PROJET 347

School of Public Health
A.I.D. Project No. : 660-0101

Ecole de Santé Publique
Projet No 660-0101 de l'A.I.D.

PROJECT AGREEMENT AMENDMENT

AMENDEMENT A L'ACCORD DE PROJET

AMENDMENT Number 3, dated August 29, 1987, between the UNITED STATES OF AMERICA, acting through the Agency for International Development ("A.I.D.") and the REPUBLIC OF ZAIRE (GOZ), acting through the Department of Higher and University Education and Scientific Research:

AMENDEMENT numéro 3, du 29 août 1987, passé entre les ETATS-UNIS D'AMERIQUE, agissant par l'intermédiaire de l'Agence Américaine pour le Développement International ("A.I.D."), et la REPUBLIQUE DU ZAIRE, agissant par l'intermédiaire du Département de l'Enseignement Supérieur et Universitaire et de la Recherche Scientifique:

WHEREAS, the Department of Higher and University Education and Scientific Research and A.I.D. entered into a Grant Agreement, dated August 28, 1984 ("Agreement"); and

ATTENDU QUE, le Département de l'Enseignement Supérieur et Universitaire et de la Recherche Scientifique et l'A.I.D. ont passé un Accord de Subvention pour Projet le 28 août 1984 ("Accord"); et

WHEREAS, the Agreement was amended on May 22, 1985 and March 27, 1986; and

ATTENDU QUE, l'Accord a été amendé le 22 mai 1985 et le 27 mars 1986 ; et

WHEREAS, the Department of Higher and University Education and Scientific Research and A.I.D. desire to further amend the Agreement and the previous amendments to 1) reflect an increase of five hundred thousand U.S. dollars (\$500,000) financial obligation by A.I.D. under the Agreement; 2) reflect an increase in the grantee contribution under the Agreement; 3) amend the special covenants section to allow for gradual GOZ assumption of local project costs; 4) add Section 6.2. defining local currency costs; 5) amend Section 7.2. defining disbursement for local currency costs; and 6) amend Annex A;

ATTENDU QUE, le Département de l'Enseignement Supérieur et Universitaire et de la Recherche Scientifique et l'A.I.D. souhaitent amender à nouveau l'Accord et les Amendements y afférents afin 1) d'y faire figurer une augmentation de cinq cent mille dollars des Etats-Unis (\$500.000) apportée par l'A.I.D. à son engagement financier dans le cadre de l'Accord; 2) de refléter une augmentation de la contribution du Bénéficiaire au projet; 3) d'amender la Section "Conventions Spéciales" pour prévoir la prise en charge progressive par le gouvernement du Zaïre des coûts locaux du projet; 4) d'ajouter une Section 6.2 pour définir les coûts en monnaie nationale; 5) d'amender la Section 7.2 qui définit le décaissement des coûts en monnaie nationale; et 6) d'amender l'Annexe A;

NOW THEREFORE, the parties hereto hereby agree that the Agreement as previously amended, shall be further amended as follows:

EN CONSEQUENCE, les parties au présent Amendement conviennent par les présentes que l'Accord sera amendé à nouveau de la façon suivante:

1. Article 3, Section 3.1. is deleted in its entirety and the following is substituted in lieu thereof:

1. Article 3, Section 3.1. est supprimée entièrement et remplacée par ce qui suit:

Section 3.1. The Grant. To assist the Grantee to meet the costs of carrying out the Project, A.I.D., pursuant to the Foreign Assistance Act of 1961, as amended, agrees to grant the Grantee under the terms of this Agreement not to exceed eight million eight-hundred fifteen thousand United States ("U.S.") dollars (\$8,815,000) ("Grant"). The Grant may be used to finance foreign exchange costs, as defined in Section 6.1. and local currency costs, as defined in Section 6.2.

2. Article 3, Section 3.2. is deleted in its entirety and the following is substituted in lieu thereof:

Section 3.2. Grantee Resources for the Project.

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

(b) The resources provided by the Grantee for the Project will be not less than the equivalent of U.S. \$5,997,000, including costs borne on an "in-kind" basis.

3. Article 5, Section 5.2. b. is deleted in its entirety and the following is substituted in lieu thereof:

(b) to establish a separate line item for the School of Public Health by 1988 and gradually phase in all local project costs by 1994;

4. Article 6, Section 6.2. is hereby added to the Agreement as follows:

Section 3.1. La Subvention. Pour aider le Bénéficiaire à financer les coûts de l'exécution du Projet, l'A.I.D., conformément à la Loi de 1961 sur l'Aide aux Nations Etrangères, telle qu'amendée, accepte de donner au Bénéficiaire, aux termes du présent Accord, un montant qui ne dépassera pas huit millions huit cent quinze mille dollars des Etats-Unis (\$8.815.000) ("Subvention"). La subvention peut être utilisée pour financer les coûts en devises, comme définis à la Section 6.1., ainsi que les coûts en monnaie locale, comme définis à la Section 6.2.

2. Article 3, Section 3.2. est supprimée entièrement et remplacée par ce qui suit:

Section 3.2. Ressources du Bénéficiaire pour le Projet.

(a) Le Bénéficiaire convient de fournir ou de faire fournir pour le projet tous les fonds, outre la subvention, et toutes les ressources nécessaires pour l'exécution du projet d'une manière efficace et en temps voulu.

(b) Les ressources fournies par le Bénéficiaire pour le Projet s'élèveront à au moins la contre-valeur de \$US 5.997.000, y compris les coûts supportés sur une base "en nature".

3. Article 5, Section 5.2. b, est supprimée entièrement et remplacée par ce qui suit:

(b) Etablir d'ici à 1988 un poste budgétaire séparé pour l'Ecole de Santé Publique et incorporer progressivement tous les coûts locaux du projet d'ici à 1994;

4. Article 6, Section 6.2. est, en vertu du présent amendement, incorporée à l'Accord du Projet, comme suit:

Section 6.2. Local Currency Costs.

Disbursement pursuant to Section 7.2 will be used exclusively to finance the costs of goods and services required for the Project having their source and, except as A.I.D. may otherwise agree in writing, their origin in Zaïre or A.I.D. Geographic Code 941 countries ("Local Currency Costs"). To the extent provided for under this agreement, "Local Currency Costs" may also include the provision of local currency resources for the Project.

5. Article 7, Section 7.2. is deleted in its entirety and the following is substituted in lieu thereof:

Section 7.2. Disbursement for Local Currency Costs. The local currency needed for such disbursements may be obtained: (a) by A.I.D. requesting the Grantee to make available the local currency for such costs; or (b) by acquisition by A.I.D. with U.S. Dollars by purchase.

6. Annex A:

A) The project paper supplement entitled "Growth Monitoring and Promotion Component" is hereby incorporated into Annex A, Amplified Description of the Project.

B) The following sections of Part I, Summary, are deleted in their entirety and the attached sections of the same title are substituted in lieu thereof:

- 1) Section A, Project Data Sheet
- 2) Section D, Cost Estimates and Financial Summary;
- 3) Section E, Waivers;
- 4) Section F, Conditions Precedent to Disbursement and Covenants;
- 5) Section G, Issues.

Section 6.2. Coûts en Monnaie Nationale.

Les décaissements effectués en vertu de la Section 7.2 serviront exclusivement à financer les coûts des biens et services requis pour l'exécution du projet ayant leur source, et à moins que l'A.I.D. n'en convienne autrement par écrit, leur origine au Zaïre ou dans un pays repris au Code Géographique 941 de l'A.I.D. (coûts en monnaie nationale). Dans la mesure prévue dans cet Accord, les "coûts en monnaie nationale" pourront aussi englober la fourniture de ressources en monnaie nationale pour le projet.

5. Article 7, Section 7.2. est supprimée entièrement et remplacée par ce qui suit:

Section 7.2. Décaissement des Coûts en Monnaie Nationale. La monnaie nationale nécessaire à de tels décaissements peut être obtenue : (a) par l'A.I.D. en demandant au Bénéficiaire de mettre à disposition la monnaie nationale nécessaire pour couvrir de tels coûts; ou (b) par l'A.I.D. au moyen d'un achat en dollars US.

6. Annexe A

A) L'Annexe au Document du Projet intitulée "Volet Surveillance et Promotion de la Croissance des Enfants" est par les présentes incorporée à l'Annexe A, Description Amplifiée du Projet.

B) Les sections suivantes de la Partie I, Résumé, sont supprimées entièrement et remplacées par les sections ci-jointes qui portent les mêmes titres :

- 1) Section A, Données du Projet
- 2) Section D, Estimation du Coût et Résumé du Financement
- 3) Section E, Dérogations
- 4) Section F, Conditions Préalables au Décaissements et Conventions
- 5) Section G, Questions.

Annex 2, Project Analyses, Financial Analysis and Plan (including Tables 1-5), is deleted in its entirety and the attached revised Annex 2 Project Analyses, Financial Analysis and Plan and Tables 1-5 are substituted in lieu thereof.

Except as amended herein, the Agreement between the REPUBLIC OF ZAIRE and the UNITED STATES OF AMERICA dated August 28, 1984, as previously amended, remains in full force and effect.

IN WITNESS WHEREOF, the REPUBLIC OF ZAIRE and the UNITED STATES OF AMERICA, each acting through its respective duly authorized representative, have caused this amendment to be signed in their names and delivered as of the day and date first above written.

FOR THE UNITED STATES OF AMERICA

J H Bierke

John H. Bierke
Acting Mission Director
USAID/Zaire

Appropriation: 72-1171021.7

Budget Plan Code: GDCA-87-21660-KG13

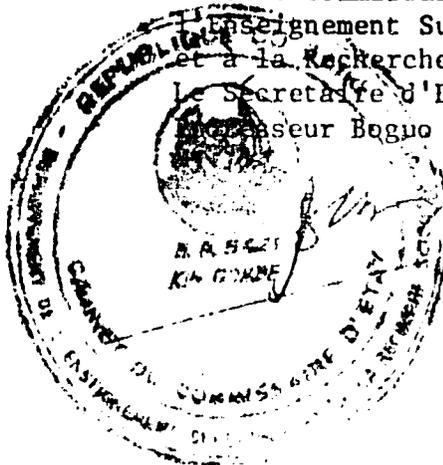
C)Annex 2, Analyses du Projet, Analyse Financière et Plan de Financement, (y compris les Tableaux 1-5) est supprimée entièrement et remplacée par l'Annexe 2 révisée et les Tableaux 1-5 ci-joints.

A l'exception de ce qui est amendé par les présentes, l'Accord passé entre la REPUBLIQUE DU ZAIRE et les ETATS-UNIS D'AMERIQUE le 28 août 1984, tel qu'amendé, reste en vigueur.

EN FOI DE QUOI, la REPUBLIQUE DU ZAIRE et les ETATS-UNIS D'AMERIQUE, chacun agissant par l'intermédiaire de son représentant respectif dûment autorisé à cet effet, ont fait signer le présent Amendement en leur nom et l'ont fait remettre au jour et en l'année qui apparaissent en tête des présentes.

POUR LA REPUBLIQUE DU ZAIRE

Pour le Commissaire d'Etat à l'Enseignement Supérieur et Universitaire et à la Recherche Scientifique
Le Secrétaire d'Etat
Monsieur Boguo Makeli



Boguo Makeli

29 AOUT 1987

I. Summary

A. Data Sheet

Country: Zaire
Project Title: School of Public Health
Project Number: ~~CONFIDENTIAL~~
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)	\$781,909	\$ 8,815,000
GOZ (Ordinary Budget, In Kind and Counterpart Funds)	\$2,168,000	\$ 5,997,000
Total	\$2,949,909	\$14,812,000

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

Date for Signature of Project Agreement : August 1984
Date for Initiation of Project Activities: June 1985
Date for Initiation of First Full Class : October 1986
Certificate in Public Health Training
UNIKIN
Interim Evaluation : June 1987
Interim Evaluation : April 1990
Interim Evaluation : August 1994

D. Cost Estimates and Financial Summary

The first five years of the project, including allowances for contingencies and inflation, will cost approximately 10.5 million dollars. This does not include in-kind contributions. The GOZ is contributing a building for the school with an estimated value of \$937,000, and offices and laboratory equipment worth about \$47,000. The total cost in foreign exchange (years 1-5) is \$7,635,073 dollars. Local currency costs are the equivalent of \$556,550 (not including in-kind contributions) from the GOZ Ordinary Budget and the equivalent of \$2,845,330 from GOZ-AID counterpart funds for a total of \$3,401,880.

Table 1 summarizes the cost estimates by category and Table 2 shows the financial plan over five years. Foreign exchange expenditures are approximately \$782,000 during the first year and \$1,144,000 in year five. The expenditure of U.S. dollar funds is greatest during the first five 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 -- the equivalent of almost \$600,000 per year -- and is less than the equivalent of \$200,000 during the project's sixth year. The flow of direct GOZ expenditures begins at a modest level (the equivalent of \$29,000) but increases to the equivalent of over \$200,000 in year six.

Technical assistance and training are the largest line items in the budget and account for about 60 percent of the combined foreign exchange and local currency costs. Commodities, which includes vehicles, office and laboratory equipment, computers and books is the next largest category -- slightly over \$1,500,000 or about 11 percent of the combined dollar and local currency budgets. Inflation and contingency costs are estimated to be about \$700,000 or 5 percent of the total budget.

Dollar expenditures over the life of the project will be used to pay for technical assistance, overseas training for Zairians 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 represent about 37 percent of the total GOZ direct expenditures during the first five years. GOZ funds will also pay for in-country training and during the final year of the project will cover 100 percent of student stipends/scholarships for long and short term training in Zaire.

Years 6-10

The total foreign exchange cost for the final five years of the project (years 6-10) is almost 1.2 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. The equivalent of approximately \$797,000 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 \$814,000.

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 vehicles 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 by 1988 and gradually phase in all local project costs by 1994.
- 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; 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 \$261,000 dollar equivalents. The team was satisfied that this level of increase can be borne by the GOZ. In the amended project agreement, the GOZ covenants to establish a line item in the budget for the School of Public Health by 1988 and to gradually phase in all local project costs by 1994. 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 on real life problems related to 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

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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 diploma 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 Growth Monitoring and Promotion Component reflects this research emphasis. Applied research in the field of primary health care and child survival is a major objective of this project.

8. The LOP Cost

The AID/W PID review committee raised the concern that the proposed LOP costs presented in the PID were underestimated. This was confirmed by the PP design team. As a result, the LOP was expanded to ten years and the total cost raised to \$13,827,000. USAID's LOP share of this cost is \$8,815,000.

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 60 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. 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 14 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 per person-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. Counterpart funds for the T. A. support staff average just over \$90,000 a year for the duration of the project.

GOZ expenditures for faculty and staff begin at \$29,000 and increase to over \$49,000 per year in year five. Total GOZ expenditures for faculty and staff is over \$455,000 for the length of project.

2.0 Training

2.1 Overseas Training represents about 10 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 includes 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-USAIU counterpart funds will be used to help pay long- and short-term training costs during the first five years. These funds will be gradually phased out as GOZ revenues are allocated for this purpose. GOZ contributions begin at the equivalent of \$88,000 in year three and increase to \$101,000 in year five and to more than \$119,000 per annum during the remainder of the project. Training costs include stipends for students, books, and transportation.

3.0 Commodities purchased in the U. S. include library and other reference materials, 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 over one million dollars and includes eight four wheel drive field vehicles.

GOZ counterpart funds for commodities amount to the equivalent of \$415,000 over the life of the project and will be used to purchase furniture and equipment for classrooms, offices, dormitories, the laboratory, library and educational materials. GOZ ordinary budget expenditures for commodities are estimated at the equivalent of \$16,000. They will be used to replace equipment and to purchase supplies.

4.0 Construction/Renovation

About \$1,635,000 will be used to pay for renovation of the school building and field training sites. The work involves construction of internal walls, modifications in the electrical and part of the plumbing systems, and installation of equipment. The GOZ will also contribute the equivalent of \$9,000 to assist in these renovations.

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 the equivalent of \$195,000 in GOZ counterpart funds and about \$64,000 in direct GOZ budgetary expenditures.

6. Other costs

Support from the counterpart budget to agencies cooperating with the school's programs is the equivalent of \$14,000. The money will be used to assist them to defray the cost of administration, travel and other expenses related to project activities.

FINANCIAL TABLES

TABLE 1

Summary Costs and Financial Plan
Length of Project Costs by Source

	<u>USAID</u> <u>(\$000)</u>	<u>GOZ/CPF USAID</u> <u>(\$ EQUIV.)</u>	<u>GOZ/OB</u> <u>(\$ EQUIV.)</u>	<u>TOTAL \$US</u> <u>(\$000)</u>
1. Technical assistance/ (Staff)	5,382	904	455	6,741
2. Training	819	31	762	1,612
3. Commodities	1,075	415	16	1,506
4. Construction/ Renovation	0	1,635	9	1,644
5. Travel/Per Diems	791	196	64	1,051
6. Other Costs	385	130	64*	579
7. Contingency	<u>363</u>	<u>331</u>	<u>-</u>	<u>694</u>
TOTAL	8,815	3,642	1,370	13,827

* In addition to the costs listed above there is a GOZ in-kind contribution of a building worth about \$937,000, and office/laboratory equipment worth about \$47,000 for a total in-kind contribution of approximately U.S. \$984,000.

Total U.S. dollar costs for the ten years are just over 8.8 million dollars and the value of the GOZ contribution (GOZ and CPF, GOZ revenues and in-kind contributions) is about 6 million dollars. This comes to slightly more than 40 percent of the total project cost. Table 2 shows the contributions by year from the different sources.

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)	782	1,737	2,606	1,366	1,144	\$ 7,635
GOZ/AID CPF (Equiv. \$000)	578	1,293	308	327	339	\$ 2,845
GOZ LC (Equiv. \$000)	29	55	146	158	169	\$ 557
In Kind (Equiv. \$000)	984	-	-	-	-	\$ 984

Budget tables 3, 4 and 5 show the cost for each category of expenditure by 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 30 percent of U.S. dollar expenditures will occur during the first two years (about 2.5 million dollars) to support intensive technical assistance and most commodity purchases. During the last five years dollar costs average less than \$250,000 a year. The flow of GOZ-AID counterpart funds peaks during year two (due to renovation-related costs) and averages less than .3 million dollars per year thereafter.

The flow of direct GOZ expenditures (excluding the in-kind contribution) follows the opposite pattern. During year one, GOZ revenue expenditures are less than \$29,000 and increase to over \$169,000 in year five and to more than \$203,000 per annum in years 6-10.

TABLE 3
U.S. DOLLAR BUDGET

TULANE UNIVERSITY-MANAGED COMPONENT	1986	1987	1988	1989	1990	86-90	91-94	TOTAL
1.0 Salaries:								
1.1 Home Office	14,000	29,680	24,720	28,203	51,375	147,978	0	147,978
1.2 Field Staff	55,917	197,160	196,320	56,973	60,903	567,273	0	567,273
Subtotal (1.1-1.2)	69,917	226,840	221,040	85,176	112,278	715,251	0	715,251
2.0 Fringe Benefits	12,157	39,485	39,216	18,926	16,891	126,675	0	126,675
3.0 Allowances	10,875	68,953	73,095	25,906	27,461	206,290	0	206,290
4.0 Travel/Transportation	145,409	76,763	272,292	126,901	117,636	739,001	0	739,001
5.0 Equipment/Material	14,857	235,602	260,681	70,277	55,335	636,752	0	636,752
6.0 Participant Cost	50,720	184,537	332,831	167,932	82,808	818,828	0	818,828
7.0 Subcontracts	0	161,208	361,973	156,552	54,920	734,653	0	734,653
8.0 Other Direct Costs	23,890	124,430	136,348	44,126	56,579	385,373	0	385,373
9.0 Consultants	95,700	104,622	89,125	80,631	61,892	431,970	0	431,970
Subtotal (1.0-9.0)	423,525	1,222,440	1,786,601	776,427	585,800	4,794,793	0	4,794,793
10.0 Indirect Costs	178,384	286,125	445,383	228,449	199,939	1,338,280	0	1,338,280
Subtotal (1.0-10.0)	601,909	1,508,565	2,231,984	1,004,876	785,739	6,133,073	0	6,133,073
USAID-MANAGED COMPONENT								
11.0 Technical Assistance	0	40,000	165,000	165,000	165,000	535,000	983,273	1,518,273
12.0 Commodities	150,000	150,000	0	0	0	300,000	0	300,000
Subtotal (11.0-12.0)	150,000	190,000	165,000	165,000	165,000	835,000	983,273	1,818,273
13.0 Contingency (20%-USAID Component)	30,000	38,000	33,000	33,000	33,000	167,000	196,654	363,654
Subtotal (11.0-13.0)	180,000	228,000	198,000	198,000	198,000	1,002,000	1,179,927	2,181,927
TECHNICAL ASSIST COMPONENT								
14.0 Salaries	0	0	8,533	8,533	8,534	25,600	0	25,600
15.0 Fringe Benefits	0	0	1,200	1,200	1,200	3,600	0	3,600
16.0 Travel/Transportation	0	0	17,190	17,190	17,190	51,570	0	51,570
17.0 Equipment/Material	0	0	55,000	42,000	41,000	138,000	0	138,000
18.0 Subcontracts	0	0	67,590	67,590	67,590	202,770	0	202,770
19.0 Other Direct Costs	0	0	7,549	7,549	7,550	22,648	0	22,648
20.0 Consultants	0	0	5,000	5,000	3,000	13,000	0	13,000
Subtotal (14.0-20.0)	0	0	162,062	149,062	146,064	457,188	0	457,188
21.0 Indirect Costs	0	0	14,270	14,271	14,271	42,812	0	42,812
Subtotal (14.0-21.0)	0	0	176,332	163,333	160,335	500,000	0	500,000
BRAND TOTAL	781,909	1,736,565	2,606,316	1,366,209	1,144,074	7,635,073	1,179,927	8,815,000

TABLE 4
BOZ/USAID COUNTERPART FUNDS (\$000)

	1986*	1987	1988	1989	1990	86-90	91-94	TOTAL
PERSONNEL								
Director	5.12	6.15	5.87	6.28	6.72	30.14	34.33	64.47
Bilingual Administrator	3.12	3.75	3.58	3.83	4.09	18.37	20.19	38.56
Chief of Service	2.22	2.67	2.55	2.72	2.91	13.07	14.93	28.00
Intendant	1.62	1.95	1.86	1.99	2.13	9.55	10.09	19.64
Bilingual secretary	2.32	3.16	3.23	3.46	3.70	15.87	16.77	32.64
Warehouse director	1.32	2.62	3.12	3.34	3.57	13.97	16.97	30.94
Chief of Protocol	1.02	2.47	3.12	3.34	3.57	13.52	16.97	30.49
Research Assistants	1.32	2.62	3.12	3.34	3.57	13.97	16.97	30.94
Accountant	0.00	7.98	6.24	6.67	7.14	28.03	34.93	62.96
Chief of Security	1.32	2.10	2.32	2.48	2.65	10.87	13.00	23.87
Secretary	0.92	1.99	2.43	2.60	2.78	10.72	14.00	24.72
Secretary	0.92	1.70	1.97	2.11	2.26	8.96	9.50	18.46
Mechanic	0.82	1.58	1.86	1.99	2.13	8.38	11.00	19.38
Chauffeurs	4.42	8.27	12.21	13.06	13.98	51.94	69.00	120.94
Guards	9.95	29.40	36.62	39.18	41.92	157.07	201.00	358.07
SUBTOTAL 1	36.41	78.41	90.10	96.39	103.12	404.43	499.65	904.08
TRAINING/APPLIED STUD								
Scholarships/stipends	0.00	0.00	10.50	10.50	10.50	31.50	0.00	31.50
SUBTOTAL 2	0.00	0.00	10.50	10.50	10.50	31.50	0.00	31.50
COMMODITIES								
Books/Training Mat	0.00	3.08	0.30	0.35	0.40	4.13	2.50	6.63
Lab/Office Supplies	11.29	15.38	1.65	1.75	1.90	31.97	10.60	42.57
Office furn/supp/equip	41.08	63.08	6.85	7.25	7.40	125.66	39.00	164.66
Class/Lib furn/equip	0.00	61.54	6.60	7.50	7.50	83.14	33.00	116.14
Dorm/Cafet furn/equip	0.00	30.77	3.30	3.35	3.80	41.22	20.30	61.52
Vehicle spare parts	5.63	6.77	0.76	1.80	3.80	18.76	4.60	23.36
SUBTOTAL 3	58.00	180.62	19.46	22.00	24.80	304.88	110.00	414.88
CONSTRUCTION/RENOVAT								
Unikin Buildings	423.08	830.15	63.63	68.08	72.86	1457.81	0.00	1457.81
Field Centers	0.00	40.00	42.80	45.80	49.00	177.60	0.00	177.60
SUBTOTAL 4	423.08	870.15	106.43	113.88	121.86	1635.41	0.00	1635.41

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TABLE 4
GOZ/USAID COUNTERPART FUNDS (\$000)

	1986*	1987	1988	1989	1990	86-90	91-94	TOTAL
TRAVEL/PER DIEMS								
Travel	0.07	15.65	20.77	19.73	9.88	66.10	30.00	96.10
Per Diems	0.00	12.31	13.17	14.09	15.08	54.65	45.00	99.65
SUBTOTAL 5	0.07	27.96	33.94	33.82	24.96	120.75	75.00	195.75
OTHER COSTS								
Diesel fuel	7.72	15.38	16.46	17.61	18.85	76.03	40.00	116.03
Other Agency Support	0.00	3.08	3.29	3.52	3.77	13.66	0.00	13.66
SUBTOTAL 6	7.72	18.46	19.75	21.13	22.62	89.69	40.00	129.69
SUBTOTAL 1 - 6	525.28	1175.60	280.18	297.72	307.86	2586.66	724.65	3311.31
CONTINGENCY (10%)	52.53	117.56	28.02	29.77	30.79	258.67	72.47	331.13
GRAND TOTAL	577.81	1293.16	308.20	327.49	338.65	2845.33	797.12	3642.44

TABLE 5

ESTIMATED 80Z INPUTS (\$000)
(INCLUDES UNIKIN, MOH AND OTHER AGENCIES)

	1986	1987	1988	1989	1990	86-90	91-94	TOTAL
1.0 Personnel								
1.1 Faculty	22.37	27.69	29.63	31.70	33.92	145.32	167.02	312.34
1.2 Support Staff	6.51	13.02	13.93	14.90	15.94	64.30	78.50	142.79
Subtotal (1.1-1.2)	28.88	40.71	43.56	46.61	49.87	209.62	245.51	455.13
2.0 Training/Research								
2.1 Stipends/scholarships								
Unikin	0.00	0.00	24.64	26.36	28.21	79.21	134.01	213.22
Other	0.00	0.00	63.36	67.80	72.54	203.70	344.59	548.29
Subtotal (2.0)	0.00	0.00	88.00	94.16	100.75	282.91	478.60	761.51
3.0 Equipment/Books/Supplies	0.00	1.54	1.65	1.76	1.88	6.83	9.28	16.11
								0.00
4.0 Construction/Renovation	0.00	0.00	0.00	1.23	1.32	2.55	6.48	9.03
								0.00
5.0 Travel/Per Diem	0.00	6.15	6.58	7.05	7.54	27.32	37.12	64.44
								0.00
6.0 Other Costs	0.00	6.15	6.58	7.05	7.54	27.32	37.12	64.44
Subtotal (1.0-6.0)	28.88	54.55	146.37	157.85	168.90	556.55	814.11	1370.66
7.0 In-Kind Contributions								
7.1 Building for School	937.00	0.00	0.00	0.00	0.00	937.00	0.00	937.00
7.2 Equipment	47.00	0.00	0.00	0.00	0.00	47.00	0.00	47.00
Subtotal (7.0)	984.00	0.00	0.00	0.00	0.00	984.00	0.00	984.00
BRAND TOTAL	1012.88	54.55	146.37	157.85	168.90	1540.55	814.11	2354.66

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 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 one-time expenditures will be covered in the first 3 years of the project. Therefore the level of expenditures for recurrent cost items was assumed to be roughly analogous to annual expenditures for the last four years of the project. The counterpart funds and GOZ budgetary expenditures required for recurrent costs are drawn from Table 3 and presented below.

Recurrent Cost Expenditures (1986 prices)

Dollar equivalent (\$000)

	<u>Total 91-94</u>	<u>Annualized Expenditures</u>	<u>Post Project Annual Expenditures</u>
Personnel:			
CP	201	50 ¹	
GOZ	246	62	62
Commodities:²			
CP	110	28	
GOZ	9	2	30
Stipends/Scholarships:			
CP	0	0	
GOZ	479	120	120

Travel/Per Diem:			
CP	75	19	
GOZ	37	9	28
Construction/Renovation:			
CP	0	0	
GOZ	6	2	2
Other Costs:			
CP ³	40	10	
GOZ	37	9	19
TOTAL	1,240	311	261
(\$000)			

Notes:

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

² includes diesel fuel, support to other agencies, representational allowances.

³ includes equipment, books, supplies.

The annual recurrent costs will be approximately \$261,000. Scholarships and stipends will account for 45% of this total. For years 1991-1994, about 34% 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.

The Department
approximately
terms, given the
there has been

Professionals
about one percent
university salaries
expenditures in
ballooning GOZ
uncertainty as
and adequate funding
recurrent cost
UNIKIN's total
the SPH to develop
overhead.

There do exist
may provide for
research grant
companies to study
possibility is
study at an expense
are only a few
located in Europe
maintain the salaries
would be very high
travel and living
Zaire can offer

A third possibility
voluntary organizations
a School of Public Health
receiving contributions
as the WHO. Funds
fund through the
however, are developed
develop in order

Best Available Document

The Department of Higher Education budget for 1983 was the equivalent of approximately \$950,000. Although the budget has 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 under the project will amount to \$62,000 by 1991, or about one percent of the Department of Higher Education's 1983 budget for university salaries. Even here, considering the decline of 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 \$199,000. This represents almost 25% of UNIKIN's total 1984 budget of \$800,000. It may, therefore, 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 African 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. There is also the possibility of receiving continued financial or technical assistance from other donors such as the WHO. Finally, there is the possibility of establishing an endowment fund through the U.S.-based contracting institution. All these possibilities, however, are contingent on the degree of professionalism the school can develop in order to attract international recognition and support.

Growth Monitoring and Promotion Component

School of Public Health Project

Contents

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- IV. Timetable
- V. Budget
- VI. Justification of Budget
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I. INTRODUCTION

A. Background

"Good nutrition" has been recognized as a vital element of "good health" by health personnel for generations. The nutritional status of children in a community is seen as an important indicator of the overall health status in that community. In developing world settings, childhood morbidity and mortality are high and are linked to nutritional status in a synergistic cycle of disease and malnutrition. Growth monitoring and nutrition interventions designed to assure adequate nutrition in children five years of age and under are, therefore, key public health strategies.

Many developing countries, although constrained by scarce resources, have nevertheless attempted to reduce mortality and morbidity among groups at high nutritional risk. Their approach has been to institute primary health care (fundamental health care at the grass-roots level) often combined with low technology, proven high efficacy programs such as immunization and oral rehydration therapy.

A.I.D.'s child survival strategy follows closely UNICEF's strategy, which proposes a package of several low technology interventions to maximize improvements in a population's health status. These include growth monitoring, oral rehydration therapy, breastfeeding, immunizations, family planning and food supplements (GOBI-FF). The elements most implicated in improving nutritional status include breastfeeding, food supplements and growth monitoring.

Growth monitoring, in particular, is a special emphasis of the child survival strategies of both the Africa Bureau and USAID/Kinshasa. Growth monitoring and promotion (GM/P) is defined as the "regular measurement, recording and interpretation of a child's growth change" over time (Yee & Zerfas, Issues in Growth Monitoring and Promotion, May 11, 1987). The goal of GM/P is to closely monitor weight to detect growth faltering before the child becomes frankly malnourished and to counsel the mother and initiate appropriate interventions which encourage growth and/or promote recuperative or catch-up growth.

Much effort and many dollars have been spent in Zaire and elsewhere to increase the coverage and improve the effectiveness of GM/P activities in identifying and assisting children at risk. These inputs have included: improving the health infrastructure's ability to plan, promote, supervise and evaluate GM/P activities; providing equipment and supplies to carry out GM/P at both the national and local levels; and training health workers at national, regional and local levels.

U.S.A.I.D./Zaire is currently supporting four projects in which GM/P is a major component:

1. The Area Nutrition Improvement Project is implemented by Zaire's National Nutrition Planning Center, CEPLANUT. This project supports GM/P in functioning rural health zones located in the Bandundu region through the development of training materials for health personnel, analysis/reporting of growth monitoring data and the purchase of equipment for growth monitoring at the health center level. In this project, GM/P serves as an entry point to health services and a source of nutrition surveillance data.

2. The Basic Rural Health II Project, implemented by a Zairian private voluntary organization, Eglise du Christ au Zaire, actively promotes GM/P in more than 2000 health centers in 100 health zones across Zaire to reach a target population of more than 2,000,000 children five years of age and under. Project-sponsored activities include: purchase and distribution of hanging baby scales; distribution of Zaire's standard growth chart; production and distribution of health education materials; and training of health workers in GM/P procedures.

3. The AID-ORT Food for Peace Project, implemented by the American PVO, Organization for Rehabilitation through Training, supports GM/P in Kinshasa's peripheral health zones. GM/P is used as a screening tool for referral to the project's supplementary feeding component. Project staff are developing and field testing educational messages designed to promote GM/P. Staff are also developing and implementing training programs for volunteer health workers (Mamans Bongissa).

4. In June 1987 PRICOR II, a centrally-funded project, completed a systems analysis in four regions of Zaire which included extensive investigation of the growth monitoring components of primary health care. Data from this study are currently being analyzed and will be made available for further GM/P research and activities.

Despite this impressive portfolio of GM/P activities being implemented in Zaire and elsewhere, GM/P has not been viewed universally as an effective intervention that has a clear impact on childhood mortality. For a variety of reasons including inadequate inputs, inappropriate methodology and misunderstanding of applications and implementation, GM/P has never received the same wide acceptance as oral rehydration therapy and immunization programs, and is not always viewed as an integral component of primary health care strategies.

The efficacy of GM/P programs relative to other health and developmental interventions must be examined systematically. Questions to be examined include the following: is growth monitoring/promotion indeed an intervention that can contribute to significant improvement in child health and survival?; and, if so, what program design(s) can maximize the combination of feasibility, acceptability, efficacy and cost-effectiveness, all critical parameters for public health planners?

To address these questions, the GM/P component of the School of Public Health Project will initially examine and describe current growth monitoring strategies in Zaire. Staff will then focus on the more important research questions of whether growth monitoring indeed contributes to improvements in nutritional status in the infant and child population in Zaire and, if so, the steps required to implement and evaluate a feasible, effective and self-sustaining program in the Zairian context.

A research/intervention project on growth monitoring/promotion is particularly appropriate at this time given USAID/Kinshasa's ten years of work in the area of GM/P, the excellent research capacity of the University of Kinshasa's School of Public Health (SPH) and the SPH's interest in developing an operations research unit that will include child survival in Africa as a priority research area. The SPH views its mandate in the area of research as not only to conduct studies and to provide support to researchers on a

project-by project basis, but also to establish a research unit capable of sustaining itself financially in the longer term future, i.e., long after project assistance has ended. This is a standard approach in American universities (which depend heavily on research grants to support operations) and represents an appropriate and realistic goal.

Summary of Proposed Activities

The SPH will collaborate with organizations working in the area of GM/P in Zaire to implement project-sponsored activities. These organizations include CEPLANUT, ORT-Food for Peace and Sante pour Tous/Kinshasa. Sequential studies in the health care setting in Zaire will be used to address the questions posed above. The first phase of project implementation will be an operations research study to examine the organization, management and operation of current GM/P activities in urban and rural areas of Zaire. This study will include a systematic classification of a large number of health delivery areas according to a series of "independent variables" that may have an impact on the nutritional status of young children, for example, GM/P-related program components, other health interventions, socioeconomic status, feeding patterns, etc. This study will form the basis for finalizing details of the second phase, a combined intervention and evaluation study. During the second phase study, specific interventions designed to improve GM/P program services will be implemented. At the same time, both the impact of improved services and the contribution of selected GM/P strategies as a determinant of child nutritional status will be evaluated. Program success/failure, i.e., "impact" or "efficacy" will be based on indicators of nutritional status and growth in cohorts of children in the most vulnerable age groups, the second through fifth years of life, who will be followed prospectively for two years. Program costs will be examined in order to derive estimates of total cost and cost-effectiveness of the various approaches to GM/P. Key to this analysis will be an examination of the sustainability and replicability of various interventions. To assure "state of the art" research, the protocol will be reviewed and critiqued by experts in the field of GM/P.

II. OBJECTIVES

- A. To synthesize data related to nutritional status, process indicators, service utilization, and personnel performance that are currently available in Zaire.
- B. To systematically characterize current GM/P programs in Zaire, and to catalog health delivery areas/centers in terms of these attributes.
- C. To evaluate the degree to which selected GM/P strategies contribute to the nutritional status of young, at-risk children.
- D. To develop and implement key interventions designed to optimize the organization and effectiveness of GM/P activities. These interventions will be evaluated to determine the practical efficacy of GM/P in Zaire, i.e., the efficacy of GM/P under the best circumstances that could be realistically expected in the field.

III. METHODS

A. Phase One: Description and Classification of Existing GM/P Programs

As described above, the first phase will be a descriptive operations research study. This study will: (a) define the types of GM/P approaches currently employed, and the proportion and geographic distribution of each type; (b) analyze the components of each type of approach; (c) describe the conditions that must exist for GM/P to be optimally effective and factors favoring each one; (d) describe how some of the various systems identified in (a) measure up to the model described in (c); and (e) develop a catalog of several urban and rural health programs classified according to the parameters described in (a)-(d). Particular focus will be placed on programs in Kinshasa, especially those participating in the ORT Title II program, and in rural areas of Bandundu.

PRICOR II is currently undertaking a major study of a relatively small number of facilities in Zaire, including an extensive descriptive analysis of organizational and functional activities' one of which is growth monitoring. This study will use the information collected by PRICOR II as a starting point and build a GM/P profile for Zaire, with particular emphasis on USAID's priority regions.

Preliminary discussions have suggested that the following approaches to GM/P are currently employed in Zaire:

- "Centralized System" - growth monitoring and nutrition education are sponsored as part of preschool preventive programs at health centers. Malnourished children referred to a central nutritional rehabilitation facility for feeding and additional education.
- "Decentralized System" - growth monitoring, nutrition education, and nutritional rehabilitation are all sponsored as part of preschool preventive programs at the local health center;

- "Growth Monitoring Only System" - growth monitoring and nutrition education are sponsored as part of preschool preventive care programs at the health center, with no nutritional rehabilitation component;
- "Decentralized System" - "Day-care centers" exist where all children are cared for and fed, and malnourished children sometimes receive additional food;
- "Non-Organized System" - Growth monitoring equipment is present and basic GM/P training of personnel takes place with no formal policy or regular supervision.

The operations research study will describe, characterize and catalogue the first four types of systems, plus any others that may currently exist, using the PRICOR "Thesaurus" classification system. Researchers will obtain information from various sources using a variety of methods, including the following:

- Analysis of the recently completed PRICOR II STUDY;
- Analysis of the current CEPLANUT study at the health center and community level in Kinshasa;
- An update of information available on GM/P in Zaire including summaries of results from all CEPLANUT studies, French-language reports of studies conducted in Zaire and currently available in Antwerp, and other available sources;
- Interviews with key personnel in the following organizations, all of which play a role in GM/P activities in Zaire: USAID Mission, CEPLANUT (National Nutrition Planning Center), Santé Pour Tous/Kinshasa (Belgian Development Assistance), SANRU (Basic Rural Health), FONAMES (responsible for coordinating donor activities in health), Catholics, ECZ, Kimbanguists, Salvation Army, UNICEF, and WHO; and
- On-site visits to centers of various types to observe and interview personnel.

Once the basic descriptions and characterizations have been completed, the "catalogued" list with details of various centers will be circulated to local health authorities in the organizations cited above for their comments.

B. Phase Two: Intervention and Evaluation Study

Based on the final report from the descriptive study, final details of phase two, the intervention and evaluation study, will be elaborated. This will be a prospective study of children residing in the areas served by a group of carefully selected centers where specific GMP-related interventions will be implemented. At the end of phase one, the most promising GM/P systems will be selected. Approximately two to three of the most promising systems will be studied at urban and rural sites, although the same systems will not necessarily be studied at each site. The second phase study will attempt to quantify the impact of the improved programs and at the same time describe with statistical validity the contribution of GM/P to the nutritional status of young Zairian children. Once a nearly final draft of the study protocol is completed, it will be subjected to critical review by experts in the field of

GM/P worldwide. Using a modified Delphi technique, the reviewers will offer comments on the protocol in an iterative fashion until reasonable consensus is attained. The members proposed for this panel include the following:

- Dr. Banea Mayambu, CEPLANUT
- Dr. Musinde Sangwa, FONAMES
- Dr. Kahozi, SANRU
- Dr. Phaka Mambu, ISTM
- Dr. Okwo Bele, P.E.V.
- Dr. Albert Pradilla - Chief, Nutrition Section, WHO/Geneva,
- Dr. Ivan Beghin - King Leopold Institute of Tropical Medicine, Antwerp
- Dr. Rap Mattorel - Stanford University
- Dr. Jean-Pierre Habicht - Cornell University
- Dr. Nancy Binken - CDC/Atlanta
- Dr. Nancy Mock - Tulane University
- Dr. Fred Zerfas - LTS/International Nutrition Unit
- Dr. Marian Zeitlin - Tufts University

This group represents not only all the major organizations supporting GM/P to improve nutritional status, but also the best minds currently working in international nutrition.

As much as possible, centers in the ORT Food for Peace Program in Kinshasa and centers in rural Bandundu region will be included in this study, as these represent USAID priority areas. Kinshasa- and Bandundu-based centers evaluated in the PRICOR II study will be included, if possible, as relevant baseline information is already available.

Centers will be selected randomly from a comprehensive list of eligible centers meeting certain criteria (a minimum prevalence of malnutrition, to maximize the chance of detecting program impact; specific organizational characteristics as defined by the first-phase study). The personnel responsible for health center-level GM/P intervention(s) will be drawn from existing personnel, as this is indeed to be a test of feasible and replicable interventions. Appropriate training and ongoing supervision of health center personnel will be provided. Once centers have been selected, the chosen GM/P interventions will be implemented and children in the each of the catchment areas will be evaluated in the following fashion:

1. Three cohorts of at least 100 children each (often more) in the catchment area corresponding to the selected center will be followed prospectively via home visits by trained field workers at six-month intervals. An interview will be conducted and height and weight obtained during the home visit.

The 3 cohorts will consist of children enrolled at ages 9, 21, and 33 months and will be followed for two years each as follows:

9m ---	15m ---	21m ---	27m ---	33m
21m ---	27m ---	33m ---	39m ---	45m
33m ---	39m ---	45m ---	51m ---	57m

Interviews will include questions regarding interim morbidity, GM/P service utilization and reasons for utilization or non-utilization, vaccination status, practices related to treatment of childhood diarrheal disease, characteristics of the household, family food distribution and dietary patterns in cohort children. Information on key economic indicators in the local setting will also be collected. In the catchment area of a health center with approximately 10,000 residents, an estimated 400 will be in each one-year age group of children five years of age and under, with about 30 in each monthly

age group. For this size population, a period of three to four months will be required to enroll 100 children in each cohort. Total time required to select and follow a cohort of 100 children will therefore be approximately 28 months. However, several health center catchment areas have populations of well over 10,000. In these instances, more children will be studied (and results properly weighed in the analysis) and the period of enrollment shortened. The total time in larger communities may therefore be somewhat shorter, but in no instance less than 25 months. The actual sampling strategy will be developed once the centers have been selected, based on results from the phase one study.

- b. Centers will be visited at six-month intervals to observe GM/P services and to conduct exit interviews of mothers. The status of GM/P equipment and supplies will also be examined.

Nutritional status and growth patterns of children studied will represent the ultimate indicator of the impact (efficacy) of each GM/P system analyzed. Nutritional status and growth patterns will be expressed using the following indices: (a) mean Z-scores for weight/age, weight/height, and height/age; (b) percent of children well-nourished and in each stage of malnutrition, using various systems to define and classify malnutrition; (c) percent of children showing growth progress, stationary growth and growth faltering; and (d) a combination of (b) and (c). These will represent the quantitative portion of the analysis. A qualitative analysis of cohort children representing "successes" (adequate growth) and "failures" (poor nutritional status and/or growth faltering) in each area studied will also be conducted (UNICEF's "positive deviant" approach). This analysis will examine how successes, coming from the same milieu as failures "managed to do it". The "secrets" to these successes may be applicable on a larger scale, having already passed the test of feasibility in "successful" families

Cost will be expressed as a combination of financial and person-time inputs. This study will determine the total cost of GM/P activities for a given system per time period, e.g., per month or year, and the cost-effectiveness, i.e., the cost (in money and person-time) per case of malnutrition averted (defined in various ways) and/or the cost to achieve a certain level (or reduction) of malnutrition.

Process indicators will also be monitored during the periodic visits to centers. Process indicators are expected to change over time as project-sponsored interventions are implemented.

Data from cohort children and household interviews as well as from health centers will be entered on computers by field staff as they are collected. Among 300 children visited 5 times each over 28 months, there will be approximately 54 household visits per month in each health zone catchment area. For studies in larger communities, e.g., 30,000, there will be up to 175 visits per month. Data will be analyzed regularly in order to have results on an ongoing basis during the two years of this phase of the study.

The report of the second phase study will include quantification of the importance of various GM/P approaches as determinants of nutritional status in preschool children of various ages. Program impact will be measured in terms of feasibility, acceptability, efficacy and cost-effectiveness.

IV. TIMETABLE

Finalize initial protocol: July 1987

First-phase study: Data collection/analysis, November 1987-March 1988
Report preparation, April 1988

Second-phase study: Preparation of final protocol and Delphi exercise,
May-June 1988
Begin field work in Kinshasa, July 1988
Recruit/train Bandundu field workers, July 1988
Begin field work in Bandundu, August 1988
"Spot checks" in Kinshasa by trainer, August 1988

Finish field work: Kinshasa - September 1990
Bandundu - October 1990

Data entry/analysis, September 1988-November 1990
Report preparation, December 1990-January 1991

Total duration of project: 3.25 years

V. BUDGET

The budget is divided into three components. The first component involves the technical assistance contractor's activities and includes supplies, logistics support, consultant coordination and research assistance. The second component is for all activities centered at the SPH including the monitoring and supervising of field activities and study control. All aspects of study design, development, implementation, and analysis will be coordinated by the SPH. This budget will be treated as a subcontract with the SPH. The third budget component is for a sub-contract with CEPLANUT. CEPLANUT is charged with data collection at rural and urban sites, as well as the initial study of current approaches to growth monitoring and nutritional promotion in Zaire.

ILLUSTRATIVE BUDGET

Technical Assistance Contractor

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Total</u>
Admin. and research Coordinator (1/3 time)	10,000	10,600	11,200	31,800
Computer Prog. Assistance	5,000	2,000	5,000	12,000
Fringe for Home Staff	1,000	1,200	1,400	3,600
Supplies and Communication	4,500	5,000	5,000	14,500
Consultants (\$200/day)	7,000	3,000	3,000	13,000
Travel and transportation (@ \$4,100/RT)	16,400	4,100	4,100	24,600
Per diem (@\$171/day)	5,985	2,565	2,565	11,970
In-Country Travel Passport/SOS/Excess baggage	9,000	3,000	3,000	15,000
<u>Equipment</u>				
4Wd vehicles (2)	50,000			50,000
Microcomputers (2)	14,000	2,000	2,000	18,000
Microcomputers (7)	25,000	5,000	5,000	35,000
Survey equipment	15,000	10,000		25,000
Total on Campus	61,900* . 43 =	26,617		26,671
Total off Campus	64,570* . 25 =	16,142		<u>16,142</u>
			Subtotal	297,229

SPH Subcontract

Project Manager @\$400	4,800	4,800	4,800	14,400
Computer Data Entry	2,400	2,400	2,400	7,200
Secretary	1,500	1,500	1,500	4,500
2 chauffeurs	2,400	2,400	2,400	7,200
Vehicle Operation and Maintenance	6,075	12,000	12,000	30,075
Equipment and Supplies	5,000	5,000	5,000	15,000
Communication	2,000	2,000	2,000	6,000
Management Fee @20%				<u>16,876</u>
			Subtotal	101,251

CEPLANUT Subcontract

PI (20% @\$100)	1,200	1,200	1,200	3,600
2 Coordinators @\$150	3,600	3,600	3,600	10,800
5 Team Leaders @\$150	9,000	9,000	9,000	27,000
16 Nut. Field Workers @\$75	14,400	14,400	14,400	43,200
			Total	84,600

Management fee 20%				<u>16,920</u>
			Subtotal	101,520
			GRAND TOTAL	\$500,000

LOCAL CURRENCY BUDGET
(Dollar equivalents)

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Total</u>
In-country air transportation	7,000	7,500	8,000	22,500
In-country ground transportation	2,500	2,500	2,500	<u>7,500</u>
			Total	\$30,000

VI. JUSTIFICATION OF BUDGET

The SPH project has no line item for research in its current budget. All costs related to GM/P research activities must, therefore, be included in the GM/P component budget. Although the SPH is developing resources and management systems to serve the research community and sees research as an important potential tool for autofinancing, research costs cannot be subsidized from the current SPH project budget. Some minor changes may be made in the proposed subcontract budgets based on final design decisions.

Technical Assistance Contractor

Personnel- An administrative/research coordinator (one-third time) is included as U.S.-based support for the technical assistance contractor's staff. The research coordinator will assist with literature reviews, summarize consultant comments and coordinate both administratively and technically the ongoing research activity. An individual at the level of an MPH in nutritional epidemiology or the equivalent will be selected for this position. High-level system programmer time is budgeted in order to design the data base for this activity and to backstop data management.

Technical Assistance- Six U.S.-Kinshasa roundtrips are budgeted during the first year of activity for experts in the fields of nutritional epidemiology, field observational methods and questionnaire design, health economics and services utilization and biostatistics. One roundtrip for the U.S.-based coordinator is also budgeted. The consultant line item reflects the technical assistance needs associated with finalizing the study design during the first six to eight month period.

Equipment- The most expensive item of equipment will be the purchase and support of two four-wheel drive vehicles. The cost of maintenance and operation is budgeted at rates calculated from current use of similar vehicles. Two large microcomputers will be purchased for installation at the SPH and CEPLANUT. This will add to CEPLANUT's analytic capacity and provide backup processing power so that all data analysis can be undertaken in Zaire. Software, including Wordperfect, DBase 3 Plus, IQ data entry package, SPSS Plus, and Gauss statistical package will be purchased. Seven