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HEALTH AND HUMAN RESOURCES ANALYSIS FOR AFRICA (HHRAA)

(698-0483)

Volume II
Additional Annexes

AFR/ARTS/HHR
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ANNEX F

PROJECT STATUTORY CHECKLIST

5C(2) - ASSISTANCE CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of a country to receive assistance. This section is divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources. Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

CROSS REFERENCE: IS COUNTRY CHECKLIST UP TO DATE?

A. CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1. **Host Country Development Efforts** (FAA Sec. 601(a)): Information and conclusions on whether assistance will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

This is an Africa regional, not a country-specific projec
This project focuses on health, population, nutrition and education development. It does not focus on industry trade and/or commerce development.

2. **U.S. Private Trade and Investment** (FAA Sec. 601(b)): Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

As stated above, this project does not focus on industry trade and/or commerce development.

3. **Congressional Notification**

a. **General requirement** (FY 1991 Appropriations Act Secs. 523 and 591; FAA Sec. 634A): If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the notification requirement has been waived because of substantial risk to human health or welfare)?

A full notification was sent forward to Congress on March 3, 1992.

b. **Notice of new account obligation** (FY 1991 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?

N/A

c. **Cash transfers and nonproject sector assistance** (FY 1991 Appropriations Act Sec. 575(b)(3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic poolicy reforms to be promoted?

N/A

4. **Engineering and Financial Plans** (FAA Sec. 611(a)): Prior to an obligation in excess of $500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Yes

(b) Yes

5. **Legislative Action** (FAA Sec. 611(a)(2)): If legislative action is required within recipient country with respect to an obligation in excess of $500,000, what is the basis for a reasonable expectation that such action

N/A

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will be completed in time to permit orderly accomplishment of the purpose of the assistance?

6. **Water Resources** (FAA Sec. 611(b); FY 1991 Appropriations Act Sec. 501): If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)

N/A

7. **Cash Transfer and Sector Assistance** (FY 1991 Appropriations Act Sec. 575(b)): Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?

N/A

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

N/A

9. **Multiple Country Objectives** (FAA Sec. 601(a)): Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

Africa-wide, regional
This project focuses on health population, nutrition and education, It does not focus on industry, trade and/or commerce development.

10. **U.S. Private Trade** (FAA Sec. 601(b)): Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

As stated previously this project does not focus on industry trade, and/or commerce development.

11. **Local Currencies**

a. **Recipient Contributions** (FAA Secs. 612(b), 636(h)): Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.

N/A

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

N/A

c. **Separate Account** (FY 1991 Appropriations Act Sec. 575). If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

N/A

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

N/A

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government? N/A

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes? N/A

(4) If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government? N/A

12. **Trade Restrictions**

a. **Surplus Commodities** (FY 1991 Appropriations Act Sec. 521(a)): If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? N/A

b. **Textiles (Lautenberg Amendment)** (FY 1991 Appropriations Act Sec. 521(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of N/A

textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

13. **Tropical Forests** (FY 1991 Appropriations Act Sec. 533(c)(3)): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas?

No.

14. **PVO Assistance**

a. **Auditing and registration** (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.?

N/A

b. **Funding sources** (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government?

Although this project does not anticipate major PVO involvement, it is possible that a PVO may be identified to conduct a project supported R&A activity. At such time that a U.S. PVO may be identified for possible project funding, ARTS/HHR will verify that the PVO meets the statutory funding requirements.

15. **Project Agreement Documentation** (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision).

No bilateral project agreements are anticipated under this regional project.

16. **Metric System** (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

Yes, However, this project will finance very little commodity procurement.

17. **Women in Development** (FY 1991 Appropriations Act, Title II, under heading "Women in Development"): Will assistance be designed so that the percentage of women participants will be demonstrably increased?

Much of the projects research and analysis will focus on women's issues (e.g. increasing girls educational attainment, maternal health).

18. **Regional and Multilateral Assistance** (FAA Sec. 209): Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.

This is a regional project and will focus on issues with regional relevance and development potential.

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19. **Abortions** (FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 525):	No.
a. **Will assistance be made** available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?	No.
b. Will any funds be used to lobby for abortion?	No.
20. **Cooperatives** (FAA Sec. 111): Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life?	N/A. This is a regional research and analysis project.
21. **U.S.-Owned Foreign Currencies**	
a. **Use of currencies** (FAA Secs. 612(b), 636(h); FY 1991 Appropriations Act Secs. 507, 509): Describe steps taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services.	N/A
b. **Release of currencies** (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?	N/A
22. **Procurement**	
a. **Small business** (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?	Yes.
b. **U.S. procurement** (FAA Sec. 604(a)): Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him?	Under DFA legislation, procurement from Geographic Code 935 is authorized. To the extent practicable and consistent with project objectives, project-financed procurements will have U.S. source and origin

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c. **Marine insurance** (FAA Sec. 604(d)): If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? N/A

d. **Non-U.S. agricultural procurement** (FAA Sec. 604(e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) N/A

e. **Construction or engineering services** (FAA Sec. 604(g)): Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.) N/A

f. **Cargo preference shipping** (FAA Sec. 603)): Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates? N/A

g. **Technical assistance** (FAA Sec. 621(a)): If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the Yes.

facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

Yes

h. U.S. air carriers (International Air Transportation Fair Competitive Practices Act, 1974): If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?

Yes.

i. Termination for convenience of U.S. Government (FY 1991 Appropriations Act Sec. 504): If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?

All project-funded contracts will contain such provision.

j. Consulting services (FY 1991 Appropriations Act Sec. 524): If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)?

Yes.

k. Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest

Yes.

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documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

1. **Competitive Selection Procedures** (FAA Sec. 601(e)): Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? — Yes.

23. **Construction**

a. **Capital project** (FAA Sec. 601(d)): If capital (e.g., construction) project, will U.S. engineering and professional services be used? — N/A

b. **Construction contract** (FAA Sec. 611(c)): If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? — N/A

c. **Large projects, Congressional approval** (FAA Sec. 620(k)): If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress? — N/A

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

25. **Communist Assistance** (FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? — N/A

26. **Narcotics**

a. **Cash reimbursements** (FAA Sec. 483): Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? — N/A

b. **Assistance to narcotics traffickers** (FAA Sec. 487): Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance? — Yes.

27. **Expropriation and Land Reform** (FAA Sec. 620(g)): Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? — N/A

28. **Police and Prisons** (FAA Sec. 660): Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? — Yes.

29. **CIA Activities** (FAA Sec. 662): Will assistance preclude use of financing for CIA activities? — Yes.

30. **Motor Vehicles** (FAA Sec. 636(i)): Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? — Under DFA legislation, procurement from Geographic Code 935 contracts is authorized.

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31. **Military Personnel** (FY 1991 Appropriations Act Sec. 503): Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel? Yes.

32. **Payment of U.N. Assessments** (FY 1991 Appropriations Act Sec. 505): Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues? Yes.

33. **Multilateral Organization Lending** (FY 1991 Appropriations Act Sec. 506): Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? Yes.

34. **Export of Nuclear Resources** (FY 1991 Appropriations Act Sec. 510): Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology? Yes.

35. **Repression of Population** (FY 1991 Appropriations Act Sec. 511): Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? Yes.

36. **Publicity or Propoganda** (FY 1991 Appropriations Act Sec. 516): Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress? No.

37. **Marine Insurance** (FY 1991 Appropriations Act Sec. 563): Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate?

Yes, where such a clause is applicable to the services bring procured under the contract or solicitation.

38. **Exchange for Prohibited Act** (FY 1991 Appropriations Act Sec. 569): Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law?

No.

B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

1. **Agricultural Exports (Bumpers Amendment)** (FY 1991 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment): If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?

N/A

2. **Tied Aid Credits** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund"): Will DA funds be used for tied aid credits?	No.
3. **Appropriate Technology** (FAA Sec. 107): Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	N/A
4. **Indigenous Needs and Resources** (FAA Sec. 281(b)): Describe extent to which the activity recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.	The project will ensure host country input and participation in identifying and prioritizing research and analysis activities. The project will not involve civic education or training. Also efforts will be made to engage and support African researchers in the project activities.
5. **Economic Development** (FAA Sec. 101(a)): Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?	The utilization of project generated information will contribute toward improved health status and educational attainment of African populations, thereby increasing their productive capacity.
6. **Special Development Emphases** (FAA Secs. 102(b), 113, 281(a)): Describe extent to which activity will: (a) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries	The project will not work directly in any of these areas, but will generate and facilitate the use of information to enhance such activities as they relate to the health, population nutrition and education.

and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries.

7. **Recipient Country Contribution** (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? N/A

8. **Benefit to Poor Majority** (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority? Yes.

9. **Abortions** (FAA Sec. 104(f); FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 535):

a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? No.

b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? No.

c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? NO.

d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services?	N/A
e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning?	N/A
f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?	No.
g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization?	No.
10. **Contract Awards** (FAA Sec. 601(e)): Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	Yes.
11. **Disadvantaged Enterprises** (FY 1991 Appropriations Act Sec. 567): What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?	It is not anticipated that such a set-aside will be made in this project. However in accordance with Section 567, all contracts exceeding $500,000 will be required to have subcontracting plans that meet the requirements of this legislation.

12. **Biological Diversity** (FAA Sec. 119(g): Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas? N/A

13. **Tropical Forests** (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c)-(e) & (g)):

a. **A.I.D. Regulation 16:** Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Yes.

b. **Conservation:** Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions N/A

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which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; (11) utilize the resources and abilities of all relevant U.S. government agencies; (12) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land; and (13) take full account of the environmental impacts of the proposed activities on biological diversity?

c. **Forest degradation:** Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas; (3) activities which would result in the conversion of forest lands to the rearing of livestock; (4) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded

N/A

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forest lands; (5) the colonization of forest lands; or (6) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

d. **Sustainable forestry:** If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry? N/A

e. **Environmental impact statements:** Will funds be made available in accordance with provisions of FAA Section 117(c) and applicable A.I.D. regulations requiring an environmental impact statement for activities significantly affecting the environment? N/A

14. **Energy** (FY 1991 Appropriations Act Sec. 533(c)): If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases? N/A

15. **Sub-Saharan Africa Assistance** (FY 1991 Appropriations Act Sec. 562, adding a new FAA chapter 10 (FAA Sec. 496)): If assistance will come from the Sub-Saharan Africa DA account, is it: (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) to be used to promote sustained economic growth, encourage

Although the project will not be directly involved with field implementation. The projects research and analysis process will be implemented in accordance with all items, (a-f).

private sector development, promote individual initiatives, and help to reduce the role of central governments in areas more appropriate for the private sector; (c) to be provided in a manner that takes into account, during the planning process, the local-level perspectives of the rural and urban poor, including women, through close consultation with African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (d) to be implemented in a manner that requires local people, including women, to be closely consulted and involved, if the assistance has a local focus; (e) being used primarily to promote reform of critical sectoral economic policies, or to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities; and (f) to be provided in a manner that, if policy reforms are to be effected, contains provisions to protect vulnerable groups and the environment from possible negative consequences of the reforms?

16. **Debt-for-Nature Exchange** (FAA Sec. 463): If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and atmosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management. N/A

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17. **Deobligation/Reobligation** (FY 1991 Appropriations Act Sec. 515): If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified? N/A

18. **Loans**

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

b. **Long-range plans** (FAA Sec. 122(b)): Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities? N/A

c. **Interest rate** (FAA Sec. 122(b)): If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter? N/A

d. **Exports to United States** (FAA Sec. 620(d)): If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest? N/A

19. **Development Objectives** (FAA Secs. 102(a), 111, 113, 281(a)): Extent to which activity will: (1) effectively involve the poor in development, by expanding access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from

The project will not work directly in any of these areas, but will generate and facilitate the use of informaiton to enhance such activities as they relate to the health, population nutrition and education sectors.

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cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (2) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?

20. **Agriculture, Rural Development and Nutrition,** and **Agricultural Research** (FAA Secs. 103 and 103A):

a. **Rural poor and small farmers:** If assistance is being made available for agriculture, rural development or nutrition, describe extent to which activity is specifically designed to increase productivity and income of rural poor; or if assistance is being made available for agricultural research, has account been taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made.

N/A

b. **Nutrition:** Describe extent to which assistance is used in coordination with efforts carried out under FAA Section 104 (Population and Health) to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value; improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people.

Nutrition is one of the project's research sectors and will be addressed in coordination with the other sectors: Health, population and education) with the aim of improving nutrition policyand planning in African countries and the nutritional behaviors of poor and vulnerable populations.

c. **Food security:** Describe extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

N/A

21. **Population and Health** (FAA Secs. 104(b) and (c)): If assistance is being made available for population or health activities, describe extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

Key focus areas for project-supported research in Health and Population include the integration of interventions, improved efficiency and equity of delivery systems, increased access, child survival and maternal health.

22. **Education and Human Resources Development** (FAA Sec. 105): If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

Key focus areas for project-supported research in education include sustainability and equity of educational systems, effectiveness of schools and institutional strengthening.

23. **Energy, Private Voluntary Organizations, and Selected Development Activities** (FAA Sec. 106): If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

N/A

a. concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment; N/A

b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations; N/A

c. research into, and evaluation of, economic development processes and techniques; N/A

d. reconstruction after natural or manmade disaster and programs of disaster preparedness; N/A

e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance; N/A

f. for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development. N/A

C. CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

1. **Economic and Political Stability** (FAA Sec. 531(a)): Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA? N/A

2. **Military Purposes** (FAA Sec. 531(e)): Will this assistance be used for military or paramilitary purposes? N/A

3. **Commodity Grants/Separate Accounts** (FAA Sec. 609): If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? (For FY 1991, this provision is superseded by the separate account requirements of FY 1991 Appropriations Act Sec. 575(a), see Sec. 575(a)(5).) N/A

4. **Generation and Use of Local Currencies** (FAA Sec. 531(d)): Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106? (For FY 1991, this provision is superseded by the separate account requirements of FY 1991 Appropriations Act Sec. 575(a), see Sec. 575(a)(5).) N/A

5. **Cash Transfer Requirements** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 575(b)). If assistance is in the form of a cash transfer: N/A

a. **Separate account:** Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds? N/A

b. **Local currencies:** Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements? N/A

c. **U.S. Government use of local currencies:** Will all such local currencies also be used in accordance with FAA Section 609, which requires such local currencies to be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available? N/A

d. **Congressional notice:** Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance? N/A

DRAFTER:GC/LP:EHonnold:5/17/91:2169J

ANNEX G

INITIAL ENVIRONMENTAL EXAMINATION

CATEGORICAL EXCLUSION
TO THE PROCEDURES FOR AN
INITIAL ENVIRONMENTAL EXAMINATION

A.I.D. is required to ensure that the environmental consequences of A.I.D.-financed activities are identified and considered prior to a final decision to proceed and that, where necessary, appropriate environmental safeguards are adopted. The Initial Environmental Examination (IEE) is the first review of the reasonably foreseeable effects of a proposed action on the environment.

Under Part 216.2(c) of 22 CFR, IEEs are generally not required when the project to be funded is "research activities which may have an effect on the physical and natural environment but will not have a significant effect as a result of limited scope, carefully controlled nature and effective monitoring" or "Analyses, studies, academic or research workshops and meetings."

The proposed project will improve understanding of key health and human resource development issues confronting African populations. It will also increase understanding of how A.I.D. supported programs and projects are working and what impact they are having. Since the project involves research, analysis, monitoring and evaluation, synthesis, packaging and dissemination of information, it qualifies for a categorical exclusion under both of these sections. An Initial Environmental Examination is, therefore, not required.

Jerry Wolgin, Acting Director
Office of Analysis, Research
and Technical Support

Concurrence: _____
John J. Gaudet
Bureau Environmental Officer
AFR/ARTS/FARA

Approve: ✓
Disapprove: ____
Date: 12/30/91

Clearance: GC/AFR: _____ Date: 3/6/92

ANNEX H

COMPLETE TECHNICAL ANALYSES

TECHNICAL ANALYSIS

PART I: Technical Analysis
PART II: Approaches for Ensuring African Input Into the HHRAA Project
PART III: African Institutions
PART IV: Dissemination: State of the Art

PART 1: TECHNICAL ANALYSIS

A. Introduction

The project purpose is to:

Increase the utilization of analysis and information in support of health, nutrition, population, and education resource allocation, strategies, policies and projects in Sub-Saharan Africa, particularly in countries where A.I.D. missions have health or education strategic objectives or a target of opportunity.

Accomplishment of the project purpose will contribute to the sub-goal which is to increase the efficiency, effectiveness and sustainability of health, nutrition, education and family planning systems in Africa.

Annex J the Justification for the Project's Analytical Focus discusses the types of information gaps that are being faced by developing country decision makers and program managers as well as donors in the health and human resource development field. A.I.D. itself is investing well over $300 million in the HHR sector and in this time of scarce resources must be assured that its investments are supporting the most cost-effective strategies and programs. A.I.D. also has a mandate to report on people-level impact of its DFA program to Congress. New work will have to be done in some sectors to develop sensitive and cost-effective indicators and methodologies for assessing people-level impact in the HHRD sector.

Although the Africa Bureau has been supporting valuable research; AFR/ARTS/HHR has identified several problems that need to be addressed with the new Africa reorganization and ARTS focus on analytical activities. These concerns revolve around the process of identification of research and analytical priorities, obtaining field input, assessing tradeoffs in funding research, and developing effective dissemination schemes have not been adequately planned. Individual technical officers to the best of their abilities have identified the priority research needed in their areas, malaria, AIDS, nutrition, etc., but the field -both Mission or host country- have not taken an active role in determining what research should be funded based on their needs and perspective.

There is also acknowledgement that a single report with research and analytical findings will not affect policy or program changes, resource allocation decisions or new technical strategies. Effective dissemination strategies play a critical role in how and if findings are actually used. Our technical staff does not have expertise in communications or experience in developing effective dissemination strategies.

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This technical analysis will specifically address the question of whether the approach recommended by the project design team is the most suitable and cost effective alternative to reach stated project objectives, which emphasize the increased utilization of information by decision makers and program managers for policy, strategy and resource allocation decisions. Because of the importance of utilization of information to achievement of HHRAA's purpose, the analysis also assesses mechanisms for ensuring both African input into HHRAA and also utilization of findings as well as reviews potential dissemination strategies.

B. The Project

The project has two components:

1. Support for analysis and research

2. Effective dissemination strategies

As the project is now designed, a primary contractor will assist the Africa Bureau develop and implement the analytical agenda process and will provide technical assistance in the areas of research development and design methodologies, dissemination strategies and specialized HHR technical areas. S&T contractors will be utilized for implementation of specific analytical work. Funding will also be used to support non-A.I.D. full time staff to expand the technical capacity of ARTS to address key analytical issues in such areas as health economics, labor economics, behavior and communications.

C. Examination of Options

1. Direct Hire

Basically this option would rely on the Direct Hire A.I.D. staff to develop and carry out the analytical agenda including identification of research priorities, developing the study or research design and actually doing the studies or research themselves. Although the direct hire A.I.D. staff should have responsibility for managing the analytical agenda process and carrying out some analysis, limitations include:

a) Technical areas of expertise are limited, eg. there are currently no health economists on the staff.

b) Most direct hire staff have some experience and capacity to do analysis, however, more complex analytical work and certainly field research will be impossible for them to carry out.

Based on points a and b, the type of research and analysis that ARTS/HHR would carry out would be geared to the technical and analytical capabilities of the staff, rather than to the needs of the field and the Agency.

c) In terms of dissemination of findings, A.I.D. in-house staff have a notoriously poor record in using innovative and effective dissemination strategies. Typically a direct hire technical staff will spend a great deal of time editing a report for technical accuracy before distribution and may arrange to have the report bound in a colored cover and distributed to an A.I.D. audience. Sometimes Washington-based meetings are held to discuss the findings. Rarely is time given to the development of several end products to respond to the needs of various target audiences. Our technical staff does not have training in communications or dissemination strategies.

AFR/ARTS/HHR has specified that their objectives are to increase the utilization of information by host country and donor decision makers and program managers. It seems unlikely that the A.I.D. direct hire staff would adequately achieve that objective.

2. Direct Hire Staff and RSSA

If the A.I.D. direct hire staff has limited technical expertise, another option is to use a RSSA arrangement to expand the office's technical capacity. Already AFR/ARTS/HHR has a RSSA with the U.S. Department of Labor and several PASAs which provide full-time staff that have expertise in data base development, labor economics, analysis of HPN and education trends,etc. This support certainly expands the technical and analytical capacity of AFR/ARTS, but it still does not provide expertise in the areas of developing research agendas, research design methodology, or effective dissemination strategies. Contacts of this group to host country decision makers and research networks and institutions tend to be limited.

Some technical areas that are obviously missing to date include health financing, communications and behavior change, and cross-cutting issues such as early childhood education.
Again the scope of the analytical activities would be circumscribed by the limitations of the ARTS staff and lack of funding to actually carry out more extensive research and field work beyond the desk analysis that A.I.D. direct hire and RSSA staff could carry out. Additional staff without additional funding to buy into and take advantage of analytical work being carried out by other parts of the agency that could be expanded or modified to have relevance for Africa would be inefficient and lead to ARTS staff reinventing the "wheel". R&D, for example has contractors that have technical expertise in a variety of AFR priority analytical areas.

These contractors also have established relationships with Missions and institutions in Africa and could carry out comparative country research. If ARTS is to be responsive to the needs of the Missions and African countries, then resources will have to be available to do more extensive, regional analysis and research.

3. Direct Hire, RSSA and OYB Transfers to R&D, CDIE,

A. R&D

It is obvious that additional full-time staff would be necessary to expand the technical capabilities of the ARTS office, but it is also necessary for ARTS/HHR to have additional funds to be able to tap into valuable R&D projects and contractors.(See Annex Review of R&D Portfolio) as well as CDIE and their data bases. A review of the R&D portfolio presented in Annex estimates that a significant portion of the technical expertise needed to implement HHR priority research and analysis is available through existing R&D cooperative agreements, PASAs and contracts. The question then is will it be possible to reach AFR/ARTS analytical objectives and develop and implement a solid analytical agenda responsive to field needs by adding RSSA staff and using OYB transfers to procure R&D and CDIE contractor services?

While the HHR offices in the R&D Bureau have an impressive array of analytic activities and have amassed considerable organizational and contractor talent there are significant constraints to achieving Africa Bureau research and analysis objectives by just transferring Africa Bureau funding to these discreet projects.

- In General, S&T studies have focused on vertical programs and the Health, Population and Nutrition Offices have supported discrete and separate studies to address the problems their programs face in providing these services and/or in reaching their targeted client groups (often the same groups) for these services. **Thus the research has not for the most part addressed how HPN services can be delivered in a more integrated fashion.**

- Much of the research conducted has been primarily country or site specific. There have been very few comparative or cross-cutting studies that have examined delivery strategies across vertical programs, or in several countries. **Consequently, the results of many studies, though useful in the particular setting, have had limited utility across programs or countries and the findings of these studies have not been widely generalizable.**

- Much of the research has addressed discrete HPN interventions (e.g. family planning methods, oral rehydration solutions, vitamin A deficiency, etc.) and ways of improving the acceptability, efficiency and effectiveness of interventions provided through vertical programs. Policy analyses have also focused primarily on understanding and overcoming constraints to specific vertical programs. **The studies conducted under S&T projects have not met the need for analyses that can help determine how to better allocate resources among programs and between curative and preventive strategies.**

- Opportunities for secondary data analysis have not been widely exploited. The DHS surveys, for example, are a particularly rich source of data and the DHS project has only recently begun to draw on their extensive country data files for cross-cutting analyses. Most of the research and analysis projects in S&T have not emphasized cross national analyses and synthesis. **In general the capability to produce data has exceeded the capacity to analyze it, and apply its findings and implications in planning and organizing more effective health services.**

- The presentation and dissemination of research findings have not been sufficiently emphasized. Many of the studies have produced highly technical research reports that have been more targeted to researchers than policy makers or program staff. Too little attention has been given to presenting research results in formats that will lead to decisions by policy makers and program managers. In addition, research results have often been viewed as ends in themselves rather than means to strengthening programs, and too little attention has been given promoting the application and utilization of results of analyses. **The knowledge that has been gained by the extensive research efforts described above are therefore not being widely applied to improve policy or program decisions, allocate resources, or strengthen services.**

Exclusive use of R&D centrally funded projects for coordinating and implementing research and analysis would not provide the Africa Bureau with the integrated and cross-cutting approaches that it is looking for. Discreet transfer of funds to individual R&D projects would be a business-as-usual approach to funding research that the Bureau wants to improve upon. While significant technical expertise needed by the Africa Bureau's research and analysis initiative are available in R&D, there is a need for a process, with resources and specific technical support,

to develop a comprehensive and cohesive analytical agenda that is demand driven from the field by Missions and African institutions.

B. CDIE Center for Development Information and Evaluation (CDIE):

CDIE offers a wide range of information-related services including research services, evaluation expertise and access to a variety of economic, HHR, and other sector data bases. CDIE provides bibliographic searches through commercial sources such as MEDLINE, POPLINE, ERIC as well as access to A.I.D. evaluations, studies and project papers. CDIE also maintains a variety of data bases for Agency use. They will consider obtaining additional data bases if their importance to the Agency can be demonstrated. CDIE uses newsletters and bulletins as well as other dissemination mechanisms that are Agency-specific and has put together mailing lists for a variety of US. and Africa institutions.

CDIE should be a very important collaborating partner in ARTS/HHR analytical agenda setting and implementation process. But ARTS cannot rely totally on CDC for dissemination, because their mechanisms to date have focused on use of information by A.I.D. decision makers and technical staff rather than host country decision makers and program managers. CDIE has used fairly traditional dissemination mechanisms and ARTS/HHR will have to use more innovative methodologies and experimentation to learn what works best in the African context.

CDIE should be the preliminary source of data sets for HHR/ARTS, but CDIE will not develop specialized data sets for easy access by HHR staff. HHR will have to have the capacity to refine these data sets to facilitate analysis by HHR staff and presentation of data for decision makers.

4. Project

The project as now designed includes funding for:

A. non-A.I.D. full time technical staff to expand the capacity of the ARTS/HHR staff to meet the priority technical research and analytical needs of the Africa Bureau and their African counterparts.

B. Buy-ins to CDIE and R&D projects/contracts to carry out a significant portion of the research-particularly field research.

C. a primary contractor to provide specific analytical/research agenda development experience, research design skills, state-of-the art dissemination skills and additional technical expertise to complement the direct hire skills.

In Sections 1-4 the case has been made that additional technical staff besides direct-hire staff is necessary to carry out ARTS/HHR's analytical mandate and project objectives. Also the case has been made that R&D and CDIE data collection and analytical activities should provide tremendous support to implementing the Africa Bureau's analytical agenda, but these activities will both require financial resources and direction. As part of the analytical development process described in the project, A.I.D. will carefully identify priority issues and the information requirements or studies to address those issues. Once this has been accomplished, Africa Bureau will be ready to determine whether or how data being collected by these groups and ongoing analytical activities can meet their specific needs. Investing, for example PD&S funds in these separate activities could be viewed as an alternative to the project. However, these are discreet activities with world-wide mandates. The project would provide a system and framework for planning analytical activities and disseminating information. These individual activities may provide mechanism for implementing the Africa Bureau analytical agenda, but not for planning or dissemination.

The question that remains then is there a need for the primary contractor? Can't the full time staff with R&D and CDIE carry out an effective analytical agenda setting and implementation process themselves? After reviewing the office organization and expertise of potential staffing, a primary contractor is critical to the success of the project. In fact without a primary contractor, this project could not achieve its objectives. In order for ARTS/HHR to become a first-rate analytical unit and carry out its mandate to address priority analytical needs of the Agency and the field and increase information use by African and Agency decision makers and program managers; additional specialized skills will be needed including research methodology and design skills, communications and dissemination expertise and in specialized technical and cross-sectoral areas that R&D can not address. The skills of HHR group are strong in specific technical areas, but their experience is less with regards to developing and managing a research portfolio. During the first years of becoming an analytic and research group, strong technical support will be required to help ARTS develop and maintain a strong research agenda setting system with relevant and scientifically correct analytical and research activities. There is a critical need for expertise to develop and test effective dissemination strategies for various target groups. Dissemination may include mass media, regionl workshops organized by African institution, conferences, etc.- activities that other contractors are not skilled or programmed to carry out.

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In addition, ARTS/HHR expects to break new ground by addressing cross sectoral issues that often fall through the cracks , such as early childhood education, female education and health and family planning practices, etc. Typically R&D contractors are focused on specific diseases, vertical health services, only primary education, etc. ARTS/HHR will need specialized technical support to begin to develop an analytical approach to cross-sectoral issues, the analysis of A.I.D's comparative advantage for carrying out the research and to then carry out the analysis/research.

SUMMARY

Having reviewed four alternatives to reaching the stated project objectives, the project configuration as planned offers the most complete and efficient means for achieving success.

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PART II: APPROACHES FOR ENSURING AFRICAN INPUT INTO THE HHRAA PROJECT

INTRODUCTION

Health projects serving sub-Saharan Africa have involved Africans in all aspects of project implementation. African participation in A.I.D. and other donor agency projects has been sought because it can provide a number of benefits including: African perspectives and insights on the planning and implementation of activities; increased credibility for the organization providing assistance; assistance in the transfer of technology and know-how; help in building capacity of local institutions and enhanced African ownership of the "technology" being transferred.

In addition to all of the reasons cited above, research and analytic projects supported by A.I.D. and other donors have also involved Africans in all aspects of their work because of a growing recognition that the results of research and analytic studies are more likely to be applied in policy and program decision making when there is "ownership" of the research. A sense of ownership comes from direct involvement in identifying the need for the study, in shaping study priorities and topics, in determining the study approach and analysis, and in influencing how the results will be used

The sections that follow discuss approaches that A.I.D. and other donors have used to involve Africans in research and to give them opportunities for substantively shaping the research process. Recommendations for the HHRAA project are provided based on these experiences and observations.

MECHANISMS FOR INVOLVING AFRICANS IN R&D PROJECTS

Africans have been involved in R&D projects primarily in two ways: as individuals and through organizations. As individuals, Africans have been hired as staff in R&D project offices in the U.S. as well as in regional offices and country programs. They work in staff and supervisory positions, and as directors or senior advisors in regional offices and country programs. Africans have been hired as interns and seconded to a ministry or organization in their own country, and they have also been hired as short term consultants. In addition, African researchers have also worked as scholars and fellows. Furthermore, in many R&D projects, Africans work as counterparts to expatriate advisors, collaborating very closely with advisors who may be short term or resident in the country.

African organizations have been involved in R&D projects as recipients of grants and contracts. Universities, ministries, public and parastatal research institutes, service provider organizations, and private consulting groups have all received grants and contracts from R&D projects to carry out research and analytic activities. The variety of approaches that have been used to elicit and facilitate the participation of African researchers and organizations are described below.

1. Competitive Research Programs

Competitive research programs have been established involving the solicitation of research proposals, proposal review and awards of grants and contracts to researchers and organizations. (PRICOR I, Pew/Carnegie).

In PRICOR I, the R&D contractor prepared and widely disseminated an announcement of the research program including a description of the priority research topics and study designs that would be funded, convened a panel of reviewers to select the research proposals for funding, assisted the grantee in conducting, analyzing and writing up the research, and monitored the performance of grantees. In response to poor quality proposals that were received, the contractor conducted regional workshops to help researchers develop "acceptable" proposals. The contractor also provided technical assistance to organizations to help them establish financial management systems, and audited the disbursement of study funds. An end of contract dissemination conference was held in which researchers from more than twenty countries presented the findings of their studies.

The International Health Policy Program carried out by The Pew Charitable Trusts and the Carnegie Corporation in conjunction with the World Bank and the World Health Organization is a program of policy research grants to LDC researchers. The range of research issues encompassed by the program is "demand driven" defined through discussions with LDC policy makers and researchers. The program requires a researcher to team with a policy maker in developing and submitting a research proposal. During the first cycle of awards, forty five proposals were received and nine awards were made. Six of the nine research grants went to African institutions including ministries of health, universities and non-governmental organizations.

2. Collaborative Research Programs

Collaborative research efforts have been carried out by R&D contractors and African researchers and research institutions. (PRICOR II, CCCD, Family Planning Operations Research Program, Health Financing and Sustainability Project)

The collaborative approach has been used far more frequently than the competitive research program described above. In general, this approach entails identifying a research institution and or/researcher and working with them to design and carry out a study of interest to both the R&D contractor and the local institution. The study topic and approach often must meet program or contractor priorities, and frequently a research "proposal" or study design must be developed, reviewed and approved before the study can be undertaken. Frequently, there is a good deal of discussion and negotiation around the study topic to ensure that it meets the interests and needs of both the local group and the sponsoring agency. R&D contractor collaboration with and technical assistance to the LDC researcher/research institution is a common feature in all of these projects. The extent of assistance and collaboration, however, may vary. In the Family Planning OR program which has resident advisors in Africa, for example, the collaboration and assistance is often an on-going aspect of the study. OR contractor staff help the institution select a research topic, design the study, collect, analyze, write up study findings and then disseminate study results to program and policy makers. Collaboration and assistance provided through the PRICOR II project, which did not have resident advisors, was on the other hand, more intermittent and limited.

3. Projects Providing Funds, Equipment and Technical Assistance

The Demographic and Health Survey Project contracts with local institutions for support in carrying out specific tasks related to the conduct of a national survey. Local institutions/researchers are involved in questionnaire development, data collection, tabulation, dissemination, etc. depending on local interest and capabilities. Institutions receive technical assistance and computer equipment, as required. African input, however, is circumscribed by the nature of the overall task and the need to ensure data comparability across countries.

4. A Research Scholars Program

African researchers have been appointed as scholars and worked on studies (PRICOR) and have been fellows in an individually designed program of skill development, overseas study and application in health policy studies and analysis. (Pew/Carnegie).

DISCUSSION

Some of the research efforts, described above, were concerned primarily with conducting analyses and studies, while others were also concerned with using study results to help influence policy

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development and program decision making. Where utilization and application were priorities, the following approaches were incorporated into projects to ensure the participation and input of decision makers:

1. Award of a grant for research was contingent on the endorsement of a policy maker (Pew/Carnegie)

2. Policy makers and program managers participated in proposing and/or selecting the issues to be studied (Family Planning OR, Health Financing and Sustainability).

3. Mechanisms for ensuring policy maker participation included formal consensus building meetings so that policy makers would have ownership of the study. In addition, informal consultations with policy makers were held both before and during the conduct of the study. (Family Planning OR, Health Financing and Sustainability, BRIDGES)

4. Policy makers were considered to be key audiences for dissemination efforts, and activities and materials were designed specifically to engage and effectively address their needs (Family Planning OR, DHS, Health Financing and Sustainability).

OBSERVATIONS

The preceding section described approaches which have been employed for involving Africans in research and analytic activities. The observations of R&D contractors and donors supporting these efforts may be instructive for the HHRAA project as it develops a strategy for engaging Africans in the project's analytic activities.

1. There are well trained university based researchers in a number of African countries (Senegal, Zaire, Kenya, Nigeria), and their skills are underutilized by their universities. R&D projects and contractors provide an opportunity to increase the credibility of African researchers by putting them in the "spotlight," by involving them in project activities, and by allowing them to play major roles in project research.

2. At the same time, there is an enormous shortage of well trained researchers in most of Africa. And even the well trained researchers need better resources (libraries, materials, equipment), and more practical and applied experiences to both keep their skills current and further develop them.

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3. Respondents were unanimous in their view that African research capabilities are limited and very weak, and there is a need to develop that capability if the effort is to involve African researchers and rely on their performance. Technical assistance, training and skill development opportunities need to be considered and incorporated into the research and analysis activities.

4. Long term donor commitment to institutional development of African research capacities was also consistently identified by R&D contractors as a critical need. Ministries are the least stable place for building research capabilities; universities the most stable, and research institutes somewhere between ministries and universities in terms of stability and longevity of personnel.

5. Research topics and studies need to be tied to real problems, and to the maximum extent possible, Ministries of Health and Education should be involved in identifying the problems that need to be studied.

6. Research efforts designed to benefit Africans should be designed in Africa to ensure that study topics are congruent with the needs of African institutions, programs and priorities.

7. It is important to be realistic about how long it will take to develop a truly collaborative research agenda with African ownership of the process. The time can be shortened by having staff and advisors in-country, but one should plan for a time frame of at least 3-5 years.

8. It will also take time for research results to influence policy decisions. Under most circumstances, a single study is likely to have little impact on policy. Numerous studies over a period of time, however, can contribute to a change in the intellectual climate and greater receptivity to policy change.

RECOMMENDATIONS

R&D contractors have had a great deal of experience carrying out research and analytic activities in Africa. The approaches they applied and their reflections about their experiences were presented in the preceding sections. This section discusses their recommendations about how to ensure significant African input and participation in the HHRAA project. The recommendations are presented in a descending rank order starting first with those which would allow the greatest amount of African input to those where the input would be increasingly more limited.

1. Establish a Partnership With One or More African Institutions

A partnership or collaborative arrangement with an African institution could address many of the features that were identified as important in a research and analytic effort involving Africans. For one, such an arrangement could provide a long term sustained relationship with an institution and contribute to strengthening African research capacities. It could also help to ensure African input and influence in shaping a research agenda relevant to the concerns of African leaders, and it could help increase the credibility and acceptability of the results for African policy and decision makers. Furthermore, such an arrangement would signal that this is an African program designed by Africans to help Africans.

2. Have African Institutions Define the Research Agenda

Having African institutions define the research agenda would help ensure the relevance of the analytic activities to African leaders and help increase the acceptability of the results. This could be achieved through a sustained partnership with one or more African institutions (discussed above), or through a series of meetings designed to ascertain African policymakers views of the critical policy and program issues for research.

3. Implement A Program of Sponsored Research For African Researchers

Africans could also be involved in carrying out studies through a program of sponsored research. The program could select researchers on the basis of proposals submitted competitively, or alternatively, research proposals be could developed through a collaborative arrangement between a U.S. contractor and an African institution or researcher. The study topics could be defined in the research solicitation announcement, or proposed, on the basis of local needs, by the researchers. In addition, an African institution could be involved in managing the sponsored research program including soliciting proposals, monitoring the work, and disseminating the results.

4. Contract with African Organizations and Researchers to Carry Out Analytic Activities

Contracts could be developed with African organizations and researchers to carry out defined studies or specific aspects of studies such as literature review, instrument development, data collection or dissemination.

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5. Designate An African Counterpart For Each Analytic Activity

For each analytic activity or study, an African counterpart could be designated to work with expatriate/external advisors, consultants and project staff on such tasks as organizing on-continent resources, helping design the study, collect information, disseminate the results, and follow-up on use of results.

6. Hire Africans As Contractor Staff and Project Consultants

African researchers could be hired by the HHRAA contractor as staff in the contractor's U.S. office, to work in Africa as regional or country staff, or as short term and intermittent consultants. They could function as intermediaries between the contractor and African institutions with responsibility for ensuring that African perspectives permeate all aspects of the process of developing and implementing the research agenda.

PART III: AFRICAN RESEARCH NETWORKS AND REGIONAL INSTITUTIONS

African Academy of Sciences
Research Priorities for Education of
Girls and Women in Africa

A Pan African collaborative research program on female education in Africa, recently established by the Rockefeller Foundation in conjunction with other donors.

African Development Bank
Abidjan, Ivory Coast

The ADB is developing a regional demographic research unit starting operations in 1992.

African Institute for Economic Development and Planning
United Nations Economic Comm.
for Africa
B.P. 3186
Dakar, Senegal

African Policy-Dialogue and Research Collaborative
Changu Mannathoko
Secretariat for the Collaborative
University of Botswana
Gaborone, Botswana

A collaborative effort between ERNESA, governments within the region, and international agencies. The initiative seeks to establish a long-term dialogue between policy makers and researchers within the participating countries. A group of education ministry leaders and researchers will be convened by the collaborative for three regional meetings over the next two years.

AIDS and Reproductive Health Network
c/o Jonathan Mann
Department of Population Sciences
Harvard School of Public Health
665 Huntington Avenue
Boston, MA 02115

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A global network of people conducting research on AIDS and reproductive health topics funded by IDRC, Ford and Rockefeller Foundations. Network funds research projects and conducts annual meetings. African researchers make up about 50% of membership.

Centre d'Etudes pour l'Action Social (CEPAS)
9 Av. Pése Boka
Gombe, Kinshasa, Zaire

The centre publishes bi-monthly (5 or 6 issues per year) a journal called Zaire-Afrique, which could be a good way to diffuse research results in French. The stress is in Zaire, but includes interest in other African countries

Centre African D'Etudes
Superieures En Gestion (CESAG)
B.P. Du Generalde Gaulle
X Malick Sy
Dakar, Senegal

Centre for African Family
Studies (CAFS)
Mlima House, Upper Hill Road
P.O. Box 600054
Nairobi, Kenya

CAFS is primarily a regional training institution for East Africa but it does conduct some family planning operations research, and it is seeking to strengthen its research capabilities.

Centre D'Estudes et de
Recherche sur la Population
Pour le Developpement (CERPOD)
B.P. 1530
Bamako, Mali

Carries out a broad research program encompassing demographic, socio-economic and family planning research in 9 Sahelian countries. Multiple donor funding including A.I.D., UNFPA and SIDA.

Centre d' Informations
Techniques et de Recherches

Pour le Development
B.P. 5022, Kinshasa 10, Zaire

Commonwealth Regional Health Community Secretariat for
East, Central and Southern Africa
Regional Health Research Program
PO Box 1009
Arusha, Tanzania
(Director, Dr. Stephen Kinoti)

The Commonwealth conducts multi country studies in reproductive health issues in former British colonies in Eastern, Central and Southern African countries. Twelve countries currently belong and other countries have expressed interest in joining. Research topics have included risk patterns of maternal mortality, patterns of contraceptive use and adolescent health interventions. Health ministries of participating countries meet annually and their interest in the research findings have been very high. A few countries have begun to cover some of the research costs in their own budgets. The secretariat developed a research agenda based on a needs assessment, and they convene proposal development workshops for researchers to develop the research design. Program has been running for two years and Rockefeller Foundation has made a 5 year commitment to program. (Jane Hughes 212-869-8500)

Council for the Development of Economic
and Social Research in Africa (CODESRIA)
BP 3304
Dakar, Senegal

Eastern and Southern African University Research Programs (ESAURP)
P.O. Box 35048
Dar es Salaam
Tanzania
T.L. Maliyamkono, Exec. Dir.

Conducts research syntheses and research in a number of sectors. Funded by German and Scandinavian development agencies.

Ecole Nationale Superieure de Statistique
et d'Economie Appliqué (ENSEA)
08 BP 3

Abidjan 08, Cote d'Ivoire
Contact: Mr. Koffi N'Guessan

Economic Commission for Africa
United Nations
re de la Sant
Population Division
Addis Ababa, Ethiopia

Education Research Network for Eastern and Southern Africa (ERNESA)
Harvard Institute for International Development
One Eliot Street
Cambridge, MA 02138
Noel McGinn

A network of university researchers active in curriculum development and educational research and evaluation. Network consists of 200-300 members and has received institutional support from IDRC to enable it to meet at least annually and to develop research proposals. The Africa Policy-Dialogue and Research Collaborative (a project of ERNESA and Bridges) engages leading country researchers and Permanent Secretaries of Education in reviewing policy options and identifying research needs.

INADES
Cocody, Abidjan
Cote d'Ivoire

Small research unit studying urban problems in Abidjan. It has good library assisted by IDRC. It has a large and independent branch called INADES-FORMATION, which works in several African countries, diffusing and preparing Agriculture related material.

Institut de Formation et de Recherche Demographiques (IFORD)
B.P. 1556
Yaounde, Cameroon

UN funded regional demographic training and research institute

Institute of Sociology and Applied Economics (ISAE)
Department of Population Studies
MAKERERE Univ.
P.O. Box 7062
Kampala, Uganda

Offers a Master's in Demography and undergraduate courses. Provides advisory services to Ministries and NGOs and organizes workshops and seminars. Research activities include:

- Adolescent Fertility Survey
- Population, Food and Development
- Women and Development

Institute of Statistical Social and Economic Research
University of Ghana
P.O. Box 74
Legon, Ghana

International Clinical Epidemiology Network (INCLEN)

An affiliation of clinical faculty members, biostatisticians, epidemiologists, etc. in medical schools throughout the world. INCLEN is a project of the Rockefeller Foundation.

Ivoirien de Recherches,
Economiques et Sociales
Universit d'Abidjan
B.P. 28295
Abidjan, Ivory Coast

Network of AIDS Researchers in Eastern and Southern Africa
Nairobi, Kenya

The Network is funded by multiple donors (Ford, IDRC, WHO) and it provides seed money and supplemental funds to AIDS researchers.

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Nigeria Institute of Social
and Economic Research
P.M.B. 5
Ibadan, Nigeria

Pan African Development Information
System (PADIS)
Addis Abbaba, Ethiopia
Nancy Haskins, Chief (FAX 212-963-4957)

They maintain a roster of African development experts.

Population Studies and Research Institute
University of Nairobi
P.O. Box 60198
Nairobi, Kenya

Regional Institute for Population Studies (RIPS)
University of Ghana
P.O. Box 96
Legon Accra, Ghana

U.N. funded regional demographic training and research institute.

Society of African Women and AIDS
c/o Eka Williams
International Center for Research on Women
Washington, D.C.

This is an organization of senior women medical researchers, social scientists, and activists working in the AIDS field.

Unité de Recherche Démographique
BP 12971
Lomé, Togo

Part of the Université du Benin in Lomé, undertakes multi-disciplinary research, funding from several outside agencies.

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West African Research Network
c/o Souleyman Mboub
FAX 221-21-6442

Network of West African social science researchers

Zaire School of Public Health
University of Kinshosa
Kinshosa, Zaire

A USAID-supported institution providing public health training. The school has also collaborated with the SvT Health projects on operations research studies and behavioral surveys and studies relating to AIDS.

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PART IV: DISSEMINATION -- STATE OF THE ART

Appropriate, well-targeted dissemination of the results of research in the areas of health and human services is critical to the utilization of that information for the improvement of services. Furthermore, active, sustained involvement of in-country researchers, program managers and policy makers can be a decisive factor in ensuring the application of study results. A.I.D. has supported a variety of research and dissemination activities through the programs of the Bureau of Research and Development, and also has actively disseminated research results through the Center for Development Information and Evaluation (CDIE). The experience of these groups illustrates the range of activities that can be undertaken to disseminate information and the results of research and analytical studies to A.I.D. staff, Missions, government officials and policy-makers in host countries, other donors and the wider research community. In addition, drawing on that experience, it is possible to distill a number of lessons about what is effective and what strategies have not worked well. (A list of the organizations and individuals with whom we spoke is included in Exhibit 1.)

APPROACHES TO DISSEMINATION

Successful dissemination depends on clear specification of the goals and expected outcomes of the dissemination activities. Specifying the purposes of dissemination, and thus the content of the information to be conveyed, leads directly to two key questions: who are you trying to reach? how can they be reached most effectively? Careful attention, therefore, must be given to targeting the audience for dissemination. As far as possible, this identification should extend beyond targeting types of organizations or officials to specifying the particular individuals you wish to influence.

Once the target groups are identified, it is important to determine the most appropriate strategies or media for transmitting information to the intended audiences. For example, if the target is a high ranking government official with the authority to formulate policies for the country, the best strategy may be to enlist an influential person to present and discuss the issues one-on-one. Similarly, if the purpose is to transmit information to program managers to enable them to improve service delivery, activities such as observational or study tours and summaries or fact sheets detailing the results of research rather than full reports describing the methodology as well as the findings may be most appropriate.

A wide range of options is available from which to select to tailor a dissemination strategy for a target audience. Well-tested, effective approaches are generally of three types: print, visual, and interpersonal. However, within each category, there are numerous alternatives that have been used successfully to reach various groups.

A standard approach to dissemination through printed materials often includes distribution of a report, or publication of a journal article. A more journalistic approach might include newsletters; fact sheets on specific, limited topics; and booklets and brochures. To the extent that training is involved, manuals, guidebooks, study guides and other tools may be useful for conveying necessary information to particular groups.

Similarly, several types of visual materials can be used effectively, alone or in conjunction with printed material. Videos, films, slide shows, and story boards (timed, computerized presentations in which text, graphs, pictures, etc. are sequentially drawn and erased from the computer monitor to tell a "story") can be particularly useful in conveying a message or transmitting information while holding the audience's attention. Well-designed, attractive posters are another strategy.

The third type of dissemination strategy, interpersonal, also encompasses a variety of activities. These range from one-on-one presentations, through small group sessions, seminars and workshops, study tours and field visits, to large international conferences.

In some contexts, it may be appropriate to be selective in the materials and information disseminated, with emphasis given to critical, key points, to avoid overwhelming the audience. In other settings, policy makers may be starved for any and all information on a particular topic. As noted, an effective dissemination strategy must identify its target audiences and their needs, as well as the appropriate type and content of materials.

To achieve its goals, the Africa Bureau's Health and Human Resources Analysis for Africa (HHRAA) Project will need to move well beyond merely distributing printed materials and consider a variety of approaches. No one strategy will be effective with all target audiences, nor is a single approach enough for a particular group. The most effective plan will incorporate sets of mutually reinforcing activities tailored to each intended audience. Some specific, innovative mechanisms for dissemination are presented here as examples of models that might be particularly useful for the Project.

Computerized Databases

Computerized databases containing published and unpublished materials and statistics can provide information in a number of formats. Although databases typically are viewed as a researcher's tool, they also can provide the source material needed to develop materials for less technical audiences. Depending on its structure, a database can be used to generate full copies of reports or abstracts, to search for information on particular issues, to provide statistical country or regional profiles, or to provide background information for the production of special monographs, fact sheets, articles, or other print or audiovisual materials. There are a number of databases that might serve as a model for the HHRAA Project, including CDIE's Development Information System; the Health Statistics Database of the Center for International Health Information funded by the International Science and Technology Institute; POPLINE, operated by the Population Information Program at Johns Hopkins University; and SHARE (System to Help Access Reports in Education), which is operated by the BRIDGES project at the Harvard Institute for International Development. POPLINE is now available on CD-ROM, a relatively inexpensive technology that brings the database directly to the researcher or other user through a personal computer. If more information than contained in the abstracts is required, documents can be requested from POPLINE, with a turn-around time estimated at 6 weeks.

Information/Documentation Centers

Projects sometimes create information or documentation centers on a national or regional basis to ensure a continued flow of information about progress and results. To be successful, such a center requires a full time staff that will collect, catalogue and disseminate documents and other information. Such centers should be staffed and operated by in-country counterparts to help develop local ownership. Also, to guarantee greater permanence, such centers are most appropriately established as part of a government ministry, university, or other local agency or organization.

Simulations

Simulations have been an effective strategy disseminating information and for training in a variety of settings. For example, Management Sciences for Health has used a simulation to teach about family planning program management. Similarly, the BRIDGES project has developed EPICS (Educational Policy Simulation), a simulation that allows participants to play the roles of planners, educators, and ministers to allocate resources to improve participation rates.

The RAPID (Resources for Awareness of Population Impacts on Development) project of the Futures Group translates policy issues into manageable, easy to understand information about both policy problems and potential solutions. It uses computer-based simulations to project population growth under alternative fertility and family planning program assumptions. The target groups for the project include high level politicians, opinion leaders and technical support staff, which shape both the message and the format.

The RAPID model is particularly interesting because it includes an institutional development component. The Futures Group carefully selects a counterpart group in each country in which it works that will be responsible for developing and presenting the RAPID model. Requirements for the group include respect in the community, access to influential leaders and policy makers, and staff with the technical skills to carry out the strategy. However, the latter is the least important as these skills can be taught. The Futures Group provides technical assistance, and facilitates from the background the counterpart group's presentation to policy makers. Once the technology and skills are transferred, the counterpart agency is expected to take the lead in follow-up and in additional, continuing dissemination activities.

Consultative Groups

As part of the Combatting Childhood Communicable Diseases (CCCD) Project, the Centers for Disease Control (CDC) organized several international consultative conferences to exchange ideas and experiences among Africans, Missions, HPN officers, CDC staff and representatives of other organizations. In addition to the presentation of research results, the consultative conferences included problem-solving workshops and exchanges that addressed implementation issues. The impact of such consultative conferences might be enhanced by systematic efforts to encourage participants to present conference findings to colleagues in their own countries, thus enhancing the diffusion of ideas.

Policy Workshops

Small workshops that bring together researchers and policy makers to discuss specific topics may be another effective mechanism for disseminating the results of research and analytical studies. This strategy is currently being used in the area of education, in the Policy Dialogue Research Collaborative, which is being organized by the BRIDGES project. In that effort, policy makers and researchers from a limited number of countries from the same region will meet in a series of workshops to discuss policy options and needs, within the

framework of policy reform. Participants will address issues common to all countries, and share experience and the results of studies, and will also receive training on existing data sources.

Dissemination Conferences

Many projects have held end-of-project conferences with researchers and policy makers to present research findings and discuss implementation issues. While this can be a useful strategy for informing the policy process, Abt Associates has taken the idea a step further in its Health Financing and Sustainability Project. That project holds a series of at least two conferences in conjunction with each country study. At the initial stages, a conference is held to build consensus on activities to be undertaken, to develop confidence among stakeholders (those who will use the results or have an interest in the study findings) in the local researchers who will carry out the work, and to discuss study objectives, limitations, and expected outcomes. Conference participants include policy makers and other stakeholders. At the end of study, a second conference is held with the same group of stakeholders to present findings, along with all of the options for decisions that must be made. For particularly long projects, interim meetings will be held to provide feedback on progress and preliminary findings. In-country researchers typically play key roles in the workshops, while the project staff lend support and technical assistance as required.

In-Country Dissemination Groups

The RAPID Project and the Health Financing and Sustainability Project both place considerable emphasis on the development and dissemination of information and findings by the counterparts. The IMPACT Project at the Population Reference Bureau took this a step further by supporting the establishment of dissemination centers or groups through a series of sub-projects. The most successful of these was the Population Information Program (PIP) of Ghana, carried out in conjunction with the Geography Department of the University of Ghana. PIP sought to influence policy makers through a series of booklets and other publications for non-specialists; seminars, workshops, and face-to-face presentations; use of the mass media; and special events. For the print materials, PIP staff selected topics, wrote or commissioned others to develop manuscripts, and selected the pictures and graphs. The IMPACT project provided financial, editing and publishing support, and furnished additional booklets as well. It is particularly instructive that opinion leaders and officials found the materials to be relevant and trusted them because they contained data specific to Ghana, obtained from official Ghanaian sources. Moreover, leaders particularly approved of the materials prepared by PIP, reinforcing the staff's conviction that information by, about and for Ghanaians would be more effective than that prepared by outsiders.

LESSONS LEARNED

The preceding section describes some mechanisms for disseminating information that are innovative, and may be particularly appropriate for the HHRAA project. Those experiences, as well as the activities of other projects provide some lessons that should be kept in mind in developing the project's overall dissemination strategy.

Plan for dissemination

Formulate a specific plan or strategy as an integral part of studies and projects. This plan will help determine how information is to be collected as well as how it will be disseminated. This will help ensure that dissemination goes well beyond producing and distributing documents to a consideration of strategies to facilitate the utilization of findings for policy making.

Provide Adequate Funds

Provide sufficient funds for the study or sub-project to adequately carry out dissemination activities at the end of the project, and afterwards. Attractive, effective dissemination materials may take some time to prepare after the study has ended, and provision for that time lapse must be made in the project budget.

Use in-country groups and individuals to develop and present information

The source of the message may be as important as its contents. Many successful dissemination strategies have been carried out primarily by local counterparts who can more easily identify key officials and tailor the message most effectively to the local context. In these instances, the CAs played a facilitating role, providing technical assistance, but encouraging their counterparts to implement the strategy and plan for follow-up activities.

Involve counterparts in all stages of the study

Active involvement of host country policy makers, program managers and researchers in all stages of projects not only helps to ensure that studies are undertaken on salient topics, but also fosters ownership of the study and its findings. This in turn facilitates the dissemination of preliminary and final results. To the extent that these opinion leaders are already involved in the project, they will have a vested interest in seeing the results translated into policies.

Emphasize local rather than global issues and information

People care most about information relevant to their own country. Evaluation of dissemination strategies in Africa by the Options project showed that, after their own country, people were most interested in their neighboring countries, followed by information about the continent, and lastly by data about the developing world in general; information relevant to the industrialized world was not considered of interest or importance. If country-specific documents are not always possible, regional publications with regional photographs and graphic examples are better than global publications with examples from all regions of the developing world. This strategy works well, even if the text remains essentially unchanged, because the pictures and graphs help bring the information closer to the experience of the audience.

Provide materials in appropriate languages.

Materials must be produced in the official language(s) of the country or region to facilitate their impact. In Africa, it will be necessary to develop materials in both French and English and, to the extent that North Africa is included in the Project, in Arabic in order to reach the intended audiences.

Emphasize simplicity and clarity

Simple graphs and tabular displays of information are most successful in getting the point across to non-technical audiences. The goal of dissemination is to inform and enlighten the audience, often about complex issues. Although computer technology now makes it relatively easy to produce sophisticated 3-dimensional displays, for example, and permits a great deal of creativity in presenting information, an untutored audience may not be able to grasp the point without careful study. Similarly, artwork that has a clear meaning (e.g., use of a figure of a mother and child to illustrate materials on maternal and child health) rather than artwork that may not relate directly to the issue (e.g., drawings of cows superimposed over a map of Africa to illustrate a booklet on family planning) is more successful, especially in the African context.

Test materials with target audience

Test materials with the target audience to ensure that they are clear and informative; don't simply assume that the approach or materials will work.

Evaluate dissemination strategies

Evaluation of the materials and dissemination approach should be built into a project from the beginning, to permit tracking of attitudinal and behavioral changes. Evaluations provide critical information on needed mid-course corrections, and enable you to assess impact.

Use Repetition

Transmit the results of studies and analyses on specific topics in a variety of ways. It is often effective to repeat the same message as it may take time for the material to be absorbed. For example, the results of a project can be transmitted in a report, followed by a fact sheet highlighting findings, and a short article in a newsletter.

RECOMMENDATIONS

The review of selected dissemination strategies included in the first section of this report presents options that the HHRAA project might usefully modify and incorporate into its own strategy. Based on the synthesis of lessons learned about the most effective approaches to dissemination, as well as the review of the activities of various projects in the areas of health, population, and education, we make the following recommendations:

Develop specific plans for dissemination

A dissemination plan outlining goals, potential target audiences, and likely formats of materials should be developed for the HHRAA project as a whole, and funds should be earmarked for these activities. More specific, detailed dissemination plans should also be formulated in conjunction with developing each analytic activity supported under the Project. Study budgets should include funds for dissemination, and consider the time required to develop and disseminate research and analytical results.

Adopt a proactive strategy

The HHRAA project should actively promote both the dissemination and utilization of the results of analytic and research activities. Many of the organizations with which we

spoke emphasized the importance of adopting a proactive stance if the proposed dissemination effort is to have an impact on policies and programs relating to health and human resources. They suggest that the HHRAA project needs to go well beyond simply distributing documents and undertake a wide range of activities designed to influence key officials and opinion leaders in order to contribute to improving the health and nutritional statuses, increasing educational achievements, and reducing fertility in sub-Saharan Africa.

Involve policy-makers and program managers at all stages

The involvement of policy-makers and program managers throughout all stages of research and analysis will enhance the likelihood that they will utilize and apply the information developed and compiled under this Project. With their involvement, Project activities will address the issues and problems that they identify as being important. Moreover, their early and continued participation will engender feelings of ownership of the activities, thus increasing their interest in using the results.

Emphasize local dissemination approaches

Use local resources and staff as much as possible for developing, producing and distributing materials. Emphasize country- or sub-region-specific information for the greatest impact. People respond with pride and greater interest if materials are locally developed by well-respected groups, and if the information presented speaks to issues and circumstances with which they are familiar or to which they can relate readily.

Evaluate materials

One of the lessons learned about dissemination refers to the importance of testing materials before they are widely distributed to ensure that they are reaching the target audience with the intended message. Equally important is evaluation of the impact of the materials on the attitudes and behavior of the target audiences. Evaluations of materials and their impact on policy-makers views and actions can be expensive to undertake, and outcomes may be difficult to quantify. Nevertheless, a variety of simple, straightforward approaches may be undertaken to begin to understand what materials are more effective for particular target audiences. For example, reader's surveys may be used to evaluate the content and usefulness of print materials; focus groups or individual interviews with a limited number of opinion leaders to determine their attitudes before and after some particular dissemination activity; initial interviews or surveys to learn the expected use of information disseminated for policy or program purposes, accompanied by follow-up interviews to discover actual use or changes in policies as a result of the information.

EXHIBIT 1

People and Organizations Contacted

Richard Pelczar
R&D/ED
Agency for International Development

Earle Lawrence
R&D/Pop
Agency for International Development

Karen Stanecki
International Statistical Programs Center
Bureau of the Census

Maury Brown and colleagues
Development Information Division
Eddie Kaplan
Information Dissemination unit
Center for Development Information and Evaluation

Beth Robinson
Family Health International

Marty Makinen
Health Financing and Sustainability Project
ABT Associates

Nancy Yinger
IMPACT Project/OPTIONS Project
Population Reference Bureau

Barbara O'Hanlon
OPTIONS Project
The Futures Group

Ward Rinehart
POPLINE
Johns Hopkins University

Theresa Hartzell
Quality Assurance Project/PRICOR
University Research Corporation

Information Officer
REACH Project
Jhn Snow, Inc.

Sharon Tipping
SOMARC Project
The Futures Group

Ellen Nayeri, Information Officer
Kathleen Henry, Editor
Vector Biology and Control
Medical Services Corporation International

J. Ellis Turner, Project Director
Philip Roart, Assoc. Dir. for Environmental Sciences and Management
Craig R. Hafner, Deputy Project Director
Dan Campbell, Librarian
Diane Bendahmane, Editor
WASH - Water and Sanitation for Health Project
Camp Dresser & McKee International

ANNEX I

COMPLETE ADMINISTRATIVE/INSTITUTIONAL ANALYSIS

ANNEX I

ADMINISTRATIVE/INSTITUTIONAL ANALYSIS

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ADMINISTRATIVE/INSTITUTIONAL ANALYSIS

A. BACKGROUND

1. Agency Management Initiative

"Toward Strategic Management" (December 1990) states the Agency's approach to strengthening and improving operations and management processes. This management initiative is in support of the series of program initiatives, (Democracy, Partnership for Business and Development and Family and Development) that form the critical elements in the Agency's agenda for the 1990's. Immediate management targets are to evaluate the program, tighten controls on funds and develop and reward the work force. Streamlining the portfolio and structure and obtaining and using the best information technology are primary elements in this strategy.

2. Management of Research and Analysis in the Africa Bureau

In December 1990 the management of the Africa Bureau announced a re-organization of the bureau to make it more consistent with the previously announced policy of giving field missions greater authority and responsibility. Under the reorganization the new technical resource office, ARTS, would be the focal point for analysis, research, and technical support for oversight of impact assessment. Specifically the Health and Human Resources Division of the office (ARTS/HHR) is charged with supporting field programs by:

- providing AFR management with analyses which show the potential and actual contribution of HPN and EHR programs to African development, the resources (funds and personnel) needed to fulfill the potential, and the policies and guidelines needed to obtain maximum impact from the resources provided;

- assisting missions to develop sectoral strategies, design implementation plans, and select impact indicators and the means of measuring them;

- sharing information and disseminating research and analysis findings which can improve the effectiveness and efficiency of field HPN and EHR programs and increase their sustainability and/or improve the measurement of the impact of the programs; and

- establishing a collaborative relationship with S&T to ensure that: a) S&T is aware of the field's requirements in those areas in which S&T can be supportive; and b) mechanisms are in place for the missions to obtain the support needed from S&T.

While analysis and research for strategic planning have been part of AFR/TR's mandate from its inception, and the HPN and EHR divisions of the TR office have conducted analytic activities which have yielded a body of data that is useful in specific areas, they were not planned with a specific set of common objectives in mind and have not formed a coherent research program. Activities began without a *priori* determination of what issues were of highest priority to the field missions, the Agency, or the HPN and EHR sector.

In 1990, attempts were made to establish an analytical agenda which would coordinate staff members' research activities and group them into categories which were meaningful with respect to the DFA Action Plan's strategic objectives. In the process, some planned studies were canceled and several new studies, which were deemed pertinent to the DFA, were added. Although the analytical agenda represents a solid beginning to the process of rationalizing the office's analytical activities, it has had limited capacity to set priorities because of its post hoc character.

The foregoing studies were not initiated as responses to requests from individual missions, nor were they timed to coincide with any specific field activities such as creation of new projects, bilateralization, etc. What is more, although informal communication between technical officers and the missions they are backstopping does take place, missions have not been engaged in a structured process of problem identification which would involve them systematically in the analytical activities of the Bureau. As a result, the information that has been generated and disseminated has been of general interest throughout the region, but any relevance to specific field activities has been fortuitous rather than planned and anticipated. In fact, there has been no clear means of assuring that the two division's analytical "products" would be of significant use to any particular field mission. A formal mechanism for the involvement of mission personnel in identification of problems for research and analysis would be one way to promote missions' interest in, and "ownership" of the results of these activities.

Although none of the divisions within AFR/TR has solved the problem of effectively involving field missions in setting analytical priorities, some have made progress in achieving coherence with respect to a sector-wide strategy. The Agriculture and Natural Resources (ANR) Office has established an objective tree, based on the DFA Action Plan, which will form the basis for determining research priorities in the Office as a whole. In part, this has been accomplished through the activities of ANR's Planning and Analysis Branch, but the prioritizing process has consumed a significant amount of time from all staff members. On

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the basis of their experience, it appears that the best way to accomplish this task may be to establish the critical sectoral issues and identify linkages between projects on the basis of these issues.

In summary, the past and present research activities of AFR/TR have been of value in the specific domains to which they were addressed, and the 1990 HPN Analytic Agenda established the groundwork for a more collaborative approach. Nevertheless, the Office has not yet begun to reap the benefits of cross-fertilization that a comprehensive and coordinated analysis program could offer. What is more, the Bureau's research activities could achieve greater impact if a more systematic and thorough means of results dissemination were put into operation. In addition, greater coordination and collaboration between S&T and the Bureau for Africa would facilitate the development of a more cohesive body of knowledge.

The foregoing suggests the need for an analytic approach and specific analyses which are different from most of those carried out by the AFR/TR and by the Bureau for Science and Technology. In particular, there is a specific need for analyses that:

- review, re-analyze, and make better use of existing data, evaluations, and previously conducted single focus or single country research.
- are more cross-national and cross-sectoral, including surveys, research, and comparative case studies;
- counteract the excessive emphasis of planning for short term gains that may distract from longer term and sustainable gains in these sectors; and
- identify trends and findings that have significant sectoral implications for many countries and that can be readily adapted and disseminated to these countries.

3. Project Design Issues

The HHRAA project, formerly called the Africa Public Health and Population Support Project (APHP) was initially designed to fold the research and analytic activities of three regionally funded projects--Child Survival (ACSI-CCCD), HIV/AIDS Prevention in Africa (HAPA), and Family Health Initiatives (FHI-II) into a new regional support project. The APHP PID cited other administrative/management matters that were to be taken into account in the project paper design:

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- Describe a process and mechanism for the joint S&T Africa Bureau development of the annual workplan, as well as its general scope and content. An analysis of the potential level of OYB transfers to S&T should be detailed.

- The PP design should analyze the management aspects of the projects to insure that direct hire work effort was refocused, contracting mechanisms streamlined and adequate project management information system were developed.

- The role of the REDSO's in framing the project's overall analytic agenda; providing technical assistance in support of APHP objectives; and assisting in monitoring sectoral progress and impact would be detailed.

While the APHP project was originally designed to focus on HPN issues, the intent was to assure that the organization structure was attentive to the broader goals and objectives of the AFR/TR and to establish a process that would facilitate cross sectoral analysis. With the consolidation of the HPN and Education and Human Resource offices into a single office, the rational for broadening the project structure to focus on social sector analytic needs that are common to health as well as human resources was more apparent.

The final project design endeavors to maximize both operational flexibility and sectoral specialization and to be consistent with the management framework, philosophy and operational procedures of the office. Two key factors in accomplishing the above are, (1) the development of consistent operational procedures for how decisions will be made on research and analysis priorities, and (2) maximizing the use and productivity of project resources. Thus the objectives of the administrative/institutional assessment were to:

a) Develop sufficient understanding of how organization and institutional factors influence the implementation of projects, thereby develop an organizational design that would ensure maximize project performance and results.

b) Define a management system that would give the project managers sufficient control over the use of project resources to ensure results while at the same time:

   - foster adequate coordination and cooperation between the project staff and S&T to ensure the technical quality of project activities and guard against duplication of effort; and

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- obtain sufficient participation in project decision making by the field missions:

  - to ensure that the analytical program of the project would be relevant; and

  - to maximize the chances that the results of the analytical work would be utilized by partner countries.

c) Develop aconsistent and coherent approach for planning the project workforce that will use talent and technical skills effectively and acknowledge and reward professional contributions and accomplishments.

B. ORGANIZATIONAL DESIGN ISSUES

1. General Approach

The assessment of the organizational and management features of successful development programs is a relatively under-emphasized area. This assessment and the subsequent project design focused heavily on the institutional aspects, i.e., structure, and processes, that are major determinants of organizational efficiency and effectiveness. The premise being, that while the importance of technology can not be overemphasized, successful implementation is highly dependent on the operational requirements of the technology. The success or failure of research and analysis as a support system technology, within the changing organizational structure of the Africa Bureau will be doubly dependent on an understanding and articulation of these factors.

The following documents were instrumental in formulating the ideas and directions contained in the Institutional and Administrative analysis.

- (1) "Organization and Management of Tropical Disease control programs: Analytical framework & preliminary findings." Draft 1990, World Bank.

- (2) Preliminary Management Assessment Report on Internal and Donor Resource Integration. Saul Helfenbein, Pritech Management Sciences for Health, 1989.

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- (3) Development Assistance and Health Programs: Issues of Sustainability. A.I.D. Program Evaluation Discussion Paper No. 23, CDIE, October 1987.

- (4) The Evaluations and Management Assessments of the ASCI-CCCD, HAPA and FHI-II Regional Projects.

- (5) Health Sector Priorities Review, World Bank.
  (a) Selecting Disease Control Priorities in Developing Countries, D. Jamison, W.H. Mosley, 3rd Draft 7/90.
  (b) Cost and Cost-Effectiveness Analysis of Health Intervention: G. Mooney & A. Creese, 11/90.

- (6) Managing Projects in Organizations, J. Davidson Frame. Jossey-Bass Publications 1987.

- (7) Study on How AID/W and Missions Operate Under Regional Projects. Solloway and Associates, Inc. 1991.

- (8) Review and Assessment of Financial Control over Regional and Centrally Funded Projects. Ernst & Young Draft 1/91.

The common thread in these reports is that institutional, organizational and implementation factors (inadequate policies, vague plans or strategies that fail to give focus to priority actions, user needs poorly identified, and deficient systems) are major constraints that hinder organizational performance. The lessons from these assessment reinforce the importance of designing new organizational arrangements, defining operational policies, procedures and criteria for prioritization, and developing strategic plans for goal setting and resource allocation in the development of the new regional project.

2. Project Policy Framework

To establish the policy framework for project research and analysis a series of principles or operational policies that would direct the governance and management of the project were developed. These operational principles reflect the thinking of AFR/TR/HPN and EHR staff, collaborating Bureaus and senior managers.

The following factors, and the project policies derived from them, were deemed critical for the development of objective, well targeted research, the management of regional projects and the use of Agency resources.

The major policy issues and principles derived from them are listed below:

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A. The new ARTS Office, as well as the HPN sector, is changing from a more vertical (health, population, and nutrition) focus and organizational framework to one that places emphasis on sectoral and inter-sectoral thinking and analysis. This transformation, coupled with the Africa Bureau mandate to increase Bureau collaboration and planning with S&T, suggests the need for a management approach and structured process which can orchestrate the participation of multiple parties with varied technical expertise and professional mandates. The design and management of an analytical "process" will be as important as the developing the technical focus or content of the analytical agenda.

(a) Balance of Process and Content
Research and analysis activities will pursue process as well as technical strategies and objectives.

B. Repeated concern has been expressed over how project resources (people and money), will be apportioned between sub-sectoral interests (health, population, nutrition, human resources and education), and the need for more cross-cutting analyses. The development of project management structure with a balanced, broad-based, decision-making process for setting goals, planning research and analysis priorities, will assure that project resources are allocated in the most cost-effective manner.

The increased demand for cross-cutting analyses on complex, multi-layer problems will require the attention and participation of many technical specialists to define the problems, constraints and linkages. A narrow viewpoint or premature development of solutions would lessen the quality and utility of the prospective product.

(b) Broad-based Decision Making
The decision making process will include a broad array of collaborating partners.

C. The sectoral level and cross disciplinary nature of the project will necessitate increased participation of ARTS and S&T staff in the planning process and will require more up-front coordination and teamwork. These group processes are not

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incompatible with individual responsibility, decision making authority, and accountability. Productivity goals are accomplished by individual team members; therefore the collective goals of the team are also achieved.

The drawback to committee management and consensus decision-making is frequently a lack of accountability for results. To counterbalance this tendency, the decentralization of decision making authority on the conduct and management of specific research and analysis activities will be offset by greater individual accountability for quality, credibility, utility and dissemination of research products. In a similar manner, Working Groups and Task Forces will have both authority and accountability for recommending rational, cost effective research and analytic priorities and meeting the collective research objectives of the team.

The emerging role of **"technical managers" of the decision making process** (i.e., Task Force or Working Group managers) carries with it similar responsibilities but a different management approach than one normally followed by a conventional project officer. Management accountability for team performance will be a critical new factor; thus effective utilization of the abilities, skills, talents and resources of team members to develop a quality product will take on increasing importance. Staff development in team-management techniques can not be overemphasized.

Finally, leadership from senior management on strategic analytic focus and priorities will set the operational framework and direction for Working Group and Task Force decisions.

(c) Decentralized Operational Decision-Making Coupled with Increased Accountability

Decentralizing decision-making responsibility to operational units and individuals will be balanced by placing increased emphasis on accountability for results in terms of contributing to Agency strategic objectives.

D. If the Agency is going to operate in a cost effective manner then it must focus attention on management of its technical resources. The operational premise for this project is that

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S&T's existing arrangements with their contractors and implementing agents would not be duplicated. The participation of S&T in the selection and design of studies and analyses will avoid duplication of existing research. In addition, it will permit the structured development of discrete units of research to form a cohesive body of knowledge.

(d) Effective and Efficient Management of Resources
Eliminating contracting redundancy through technical collaboration and skillful management of limited project resources (fiscal and human) are dual project objectives.

E. Review of the research and analysis strategies of current regional projects reinforces the conviction that establishing research objectives and setting the research agenda must be Agency driven. While the project may provide funding for research ideas submitted for consideration, the primary strategy is for the ARTS office to use project resources to identify and examine priority issues, constraints and linkages, and conceptualize and plan the research and dissemination. Implementation may be contracted out, but the Agency staff, utilizing the unique skills and thinking of world wide experts, needs to conceptualize and set the parameters for Agency research and analysis.

(e) Agency Agenda Setting
The research and analysis conducted by the project must reflect the Agency, Bureau and Missions' strategic objectives and development agendas.

3. Project Strategy

The challenge of the design team was to: (1) identify a process for setting priorities that would ensure that allocation of project funds are targeted on issues that will provide the greatest benefits per cost, (2) identify operational factors that would maximize the credibility and utility of research and analysis and (3) outline criteria for making choices. Clearly, it is important that this project seriously attend to defining research goals and identifying criteria that gives primacy to studies which can contribute to improved health systems and ultimately in improved health among the target populations.

An additional design issue was to ensure a high level of participation in project decision making by field missions to ensure that the analytical program remained relevant

and to maximize the chances that results of the analytical work would be utilized by missions. The general approach is to involve the missions in the definition and regular refining of the analytical agenda and to have a strong information dissemination and outreach program.

A) Priority Setting

Not all needs can be met when resources are scarce. "Priority" setting is about choice. It is about arranging things in such a way that those policies, programs, etc. which are considered most worthwhile stand a better chance of being implemented than other programs that are considered less worthwhile" (5a). Setting research and analytic priorities, within the context of the project, should be based on the significance of the problem, judgements as to if and where pivotal advances or impact might be realized, and the management capacity and mandate of the ARTS office.

The assessment of the technical focus for the project design stressed the point that the success of the new regional project will hinge on participation of the field in the decision-making process which will set the priorities and focus for the projects research and analysis program and implementation and dissemination of the results flowing from the project. Because there is no shortage of issues demanding investigation setting research priorities is a critical step in assuring that the **analysis is demand driven and targeted on priority issues that effect the performance of field programs and impact of** sectoral **investments.**

Mission responses to State cable 149008 (1990), requesting information on the most important health support systems needs indicated that, information systems for management, impact assessments and disease surveillance; management systems (administration and health financing); and training, supervision and to improve the quality of care were the three main areas where need was greatest. These three clusters should form the backbone of the initial analytic agenda.

B) Credibility and Utility of Research

While participation of the stakeholder and/or clients in identifying problems and analytic needs is a cornerstone in assuring research utility, the credibility of research often rests on the objectivity of the analytic process. "Agendas" are as prevalent in research and analysis as in any area, however, credibility can be seriously compromised if an analytic product lacks balance or is identified too strong with an advocacy position. The management of an analytic process should devote sufficient time to the identification and diagnosis the constraints and linkages of problem prior to the development solutions. Advocacy for program or policy development can and should flow from an analysis of the data not vice versa.

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C) Criteria

Criteria for judging analytic priorities should relate the strategic objectives of the project and the mandate of the new ARTS office: (1) improving sectoral performance, (2) measuring impact, (3) identifying emerging trends. In addition the criteria should capture the Agency's development and operational philosophy; thus an emphasis on sustainability, efficient use of resources, strategic planning, performance based programming and streamlined management. Project criteria for determining the significance of problems and the likelihood that proposed research and analysis would have probability of influence programming and policy are presented below.

CRITERIA FOR RESEARCH AND ANALYSIS

- Does this research/analysis, operationally:
  - Contribute to our strategic objectives?
  - Improve the feasibility of impact on mission programming/policy?
  - Contribute to important knowledge gaps?
  - Improve impact measurement technology?
  - Have regional importance/application?
  - Serve the needs of Africans
- Cost/management effectiveness:
  - Is there a most cost effective way to get the same answers?
  - Does the research and analysis fit within our management capacity and strategic objectives?
  - Does it duplicate or build on existing technology?
- Sustainability
  - Does the research/analysis address sustainability and capacity building issues?
- Dissemination
  - Are there clear objectives and process developed for assuring that the finding will be issued to improve policy, operations, etc.?

4. Organizational Structure

A change in office functions requires a rethinking of organizational structure, function and staff roles and responsibilities. Structurally, the project must provide a flexible mechanism and procedures for evaluating needs and generating the necessary research and analysis to address those needs. Based on the discussion in the previous section, it appears clear that the sectoral level and inter-sectoral research and analysis focus of the project will require more, complex organizational arrangements than the "simpler" planning and administrative structures characteristic of categorical (vertical) regional projects. For example, the S&T effort to develop a more integrated approach to health issues required the creation of "cluster working groups" outside the existing vertical S&T/H/POP/N office structures.

A similar working groups approach is recommended for this project. The objectives of working groups or implementing a team approach to the analytic process is to bring together the Agency's principal implementation, research, analysis and evaluation staff to:

1. bring into focus key issues and problems,

2. identify gaps in existing knowledge and constraints to policy or program performance,

3. develop strategies and methodologies for addressing these gaps or constraints, and

4. disseminate the results of the analytic work in order to reconfigure service delivery approaches, policy and program operations.

Based on the above objectives, S&T's participation in the strategic planning process will be critical on two fronts: (a) a large portion of project funded research and analysis will be conducted by S&T cooperating agencies and contractors, and duplication can be avoided and significant economies of scale realized if a structured inter-bureau research and analysis planning process is put into place, (b) the phase out of the current regional projects and the determination to effect a more direct relationship between the Missions and S&T for the procurement of technical services will require the development of annual workplans that detail the scope, content and projected level of OYB transfers for service delivery as well as country specific research and analysis.

S&T/Health made a similar point in calling for closer consultation and collaboration with field missions and better communication and earlier engagement of other bureaus in the process of project development and issue formulation (S&T/H Memo: Program Review

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4/16/90). CDIE, with their Agency mandate for monitoring performance and evaluation of programs/policies is another natural participant in the working groups.

Assuring a constituency for information developed by the project will be facilitated by wider participation in the planning process. Working groups and/or tasks forces should concentrate on assuring the partnership of the Mission and S&T in the planning of research and analysis and assessing regional research and analysis needs.

C. MANAGEMENT ISSUES

1. General Approach

The Africa Bureau emphasis on decentralization and the changes in the goals and objectives of the AFR/TR Office requires a corresponding shift in the Bureau's regional project portfolio and organizational structure. The project portfolio is changing from traditional regional service delivery projects to analytic and technical support projects. This change is compounded by a shift in the functional priorities of AFR/TR and an increased emphasis on broader sectoral (health as opposed to purely child survival), and inter-sectoral linkages. The shift in focus is reflected in the proposed organizational structure that has both a vertical as well as cross disciplinary emphasis.

These changes have project management as well as organizational implications. Developing a comprehensive understanding of the systems (IEC, information system, etc.) that support and drive the technical interventions (ORT, immunization etc.) will require a broader sectoral focus and will necessitate the collaboration of several technical specialists. Increased collaboration within and between sectors will require a more structured approach to problem identification and solving. Understanding and managing these changes will be the single most important challenge facing both the office and project management.

2. Management Systems

Management assessments of the current Africa Bureau regional projects frequently isolated management and fiscal administration as weak links in project implementation (4). The review of current research planning in AFR/TR pointed out additional weakness in strategic planning. In addition, during the development of the PID, both field and Washington staff repeatedly raised questions regarding the ability of AFR/TR to minimize the management burden on the direct hire staff without sacrificing operational oversight, and how the inevitable competition for scarce resources, when the project has a sectoral, rather then the traditional vertical focus, would be managed. In response to these issue the PID ECPR directed that the increased attention be directed to the management support systems that need to be in place in order to implement the project strategy.

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Thus the design objective was to delineate a management structure and support systems that would have a direct impact on promoting better management of the planning process, tighter fiscal management and administration, while maintaining organizational flexibility, creativity and fostering initiative. The three operational criteria for a management structure, as outlined in the PID were:

* minimize the amount of time A.I.D. direct hire staff devote to management and administration of regional projects operations and maximize the time available for sectoral planning and analysis;

* assure a balanced broad based approach to strategic planning and the allocation of core resources while assuring special interest issues are not diluted.

* outline clear lines of authority with roles and responsibilities spelled out: invest A.I.D. direct hire staff with prime decisionmaking power and delegate routine administrative procedures to non direct-hire personnel.

a) Planning and Management

Two initial broad approaches to analytic planning and management were considered. The main difference between the two are the level of leadership and initiative expected from the HHR staff and role of the prime contractor.

In one scenario, the contractor would be expected to play a strong leadership role under the general guidance of the Project Officer. The contractor would be expected to organize activities, take initiatives, and generally be looked to ensure that the project activities were taking place on schedule and were being administered properly. This model would involve less day-to-day involvement by the Agency staff and would permit the Project Officer to hold the contractor largely responsible for the success of the project. Technical project funded staff would work for the contractor.

In the second scenario, the Agency staff would be involved in the project on a day-to-day basis (e.g., chairing and participating in working groups, possibly participating in study teams). The contractor would still do many of the same things as under scenario #1, except that the actions would be taken upon request of HHR staff, less initiative would be expected of the contractor. Further, under this scenario, the contractor could not be held responsible for project success. Resident project funded technical staff would be brought on via RSSAs or Fellows mechanism, thus they would work for the Agency.

Scenario #1 might be more appropriate for the project if there were limited direct hire staff in AFR/ARTS and the Agency chose to eliminate resident project-funded staff. Therefore, unless a contractor had considerable latitude for initiative, there would be a

danger that project implementation would be adversely affected. This is less of an issue with the pairing down of Office functions and the elimination of the buy-ins and buy-through mechanism from the project. However, regional project evaluations have suggested that the direct hire management role has not been adequate. The general concern about adequate project management has also been set forth in the Administrator's Management Action Plan and in recent reports on contractor oversight and fiscal administration in current regional projects. It was felt, therefore, that Agency direct hire personnel had to be strongly involved in the implementation, as well as the management, of the project.

Given the preference for the Agency to set it's own research and analytic agenda, scenario #2 appears the more logical choice. Considering all of the foregoing, several options for managing the project in AFR/ARTS were considered. In weighing these options several important Office and project specific factors were considered. Four management factors cited by the World Bank study (1) as critical for strong institution performance are:

- effective governance and strategic management by senior managers,
- flexible response to changing demand and circumstance,
- skillful creation of an internal organizational culture and values that sustains achievement,
- use of leadership style that delegates authority and encourages initiative.

These factors are particularly relevant to the start up phase of this new project. Clearly these actions require significant leadership and interpersonal skills coupled with a level of authority to act on them.

The transformation of AFR/TR to AFR/ARTS, coupled with the merging of the education and health staffs and the initiation of a new regional project brings together a number of pivotal changes that will require strong management direction and vision. Managing change, resolving conflict, developing the staff to operate in a new environment are all functions that will require a significant degree of leadership. In addition, streamlining project management and contracting mechanisms to free-up ARTS staff time for research and analysis is dependent on a successful S&T relationship. Thus the first year of project operations will most certainly require relatively high level of interaction with S&T to facilitate what will be a new and yet untried relationship.

All of these factors argue for front-loading the initial implementation stage of the project with strong leadership, staff training in the dynamics of productive team work and the development of project operation and control systems. Freeing the Project Officer from the day to day administration of the project by assigning these responsibilities to a Project Administrator would allow the PO to concentrate on managing the change over to a new

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mode of operations. As the project and the ARTS Office settle into an established operational mode, a more conventional approach to project management and reassignment of staff effort would be warranted.

The project management approach, objectives and structure, as outlined in the PID, should be revised slightly to accommodate the project strategy and two key objectives (1) develop strategic and operational management positions within the project structure, and (2) divest the technical staff from administrative and contract oversight functions.

The positions, roles and responsibilities are recommended for the project are as follows.

Technical and management leadership would be vested in the **Project Officer** (PO). The PO would be responsible and accountable for the strategic management of the project. Management within this context would be defined as providing vision, judgment of priorities, leading others, managing change, and acting as the final venue for resolving conflict. Operationally, the PO would provide oversight, general guidance to the **coordinators or operational managers** of the working groups, teams or task forces. Operational decision making authority and accountability would reside with the working group managers.

Since one of the objectives of the project is to foster cross-sectoral cooperation, i.e. looking at possibilities for more reinforcement between health, family planning, nutrition, education, and possibly agricultural and environmental activities, it is important that project foster a cross-sectoral prospective--or at least be able to recognize where cross-sectoral activities can lead to more effective and/or more efficient programs and more importantly be able to provide strong intellectual and technical leadership. Decentralizing operational decision making and accountability to the working groups, rather than vesting it only with the PO, should provide for a broader technical perspective and provide a balanced broad-based approach.

The **Project Administrator** would be responsible for organizing and managing the operational aspects of the project: supervision and monitoring of contractor performance, managing the buy-in process, budgeting, fiscal administration and oversight. "Administration" in this context is defined as "the orderly application of routine procedures within existing legislation and policy."

Care should be taken in differentiating between management, administrative and coordinating responsibilities; titles of project positions should reflect these functions and the scope of decision making responsibility. While this is a fairly obvious point, experience with previous regional projects suggests that functional responsibilities are seldom spelled out in detail and confusion and misunderstanding on roles, lines of authority and points of coordination arise.

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b) Fiscal Management and Administration

The dual, and often competing, responsibilities of the project officer to provide strategic technical planning as well as monitor contractor performance and provide fiscal oversight has resulted in deficits in both areas in past regional projects (4). The general approach outline in the previous section is based on divesting the administrative and fiscal tracking aspects of the project from the overall management and leadership functions. The Solloway report (7) found that the two major constraints associated with regional projects were the multitude of project officer responsibilities and the level of effort required to manage regional projects. This finding is consistent with the Ernst & Young report (8), which contains an additional caution that ". . . project officers are not fully aware of, and current with, AID administrative policy." Both reports recommended that project officers be trained in financial and procurement management aspects of project monitoring.

In addition, the wide and at times unwieldy range of contracting mechanisms in the current regional projects couple with the increased use of these projects as "buy-in" or "pass-through" mechanisms for Missions to gain access to S&T resources has increased the administrative burden on the project officer. The shortcomings of current regional project financial tracking systems complicated the situation further.

While this project is designed to depend heavily on existing S&T contractors for implementation of analytic activities, thus avoid duplication and limited the number of contracts and grants to be managed in ARTS, there are fiscal and technical program oversight issues that will need to be acknowledged and planned for. Using S&T as the major contracting mechanisms will require additional effort and discipline on the part of HHR staff and project management.

With a large portion of the research and analysis being handled by S&T contractors it will be particularly important to develop detailed Memorandums of Understanding for inter-bureau OYB transfers and to review and compare prior year actual performance of activities and expenditure with proposed workplans and budgets. This is especially important with increased OYB transfers to S&T, because contractor oversight and management will not be under ARTS control. In order to assure quality, monitor costs, provide guidance to S&T contract manager and make decisions on the relative merits of combining the services of various contractors, it will be critical that the project administrator to be able to provide cost analysis, management and trends assessment as well as measure the differences between planned and actual accomplishment of services provided by S&T contractors. Solloway's report (7) contains a number of useful recommendations and steps for facilitating work with the S&T Bureau.

The project would be well served if the financial planning approach were modified, from the current practice of focusing on oversight of "inputs" to a more programmatic

approach that places emphasis on the "outputs" of a cluster of research and analytic activities that are target towards achievement of strategic objectives (DFA or project). This would provide a better basis for the comparison of the cost of analytic outputs to resource inputs. Thus project decision making on the relative benefits and effectiveness of alternative analytic approaches could be ranked.

As the project is gearing up for full operation the following should be developed: (a) project MIS (section 2.d below), budgetary and fiscal tracking, cost control systems that are consistent with Agency system, (b) reporting requirements for ARTs contractor(s) to assess technical and fiscal performance and facilitate oversight, (c) procedures for assessing the magnitude and pattern of project and Mission OYB transfers to S&T, and (d) as recommended by the Ernst & Young Report, a regular review process with FM to assure closer coordination, and finally, (e) mechanism to providing sectoral level access to technical assistance for both the project and Missions.

c) Management Information System

The project has need of financial reporting, related to achieving project outputs, and health and education information data that can be used to determine the impact of the project.

The contractor can be tasked to develop and maintain financial reporting for the project, not only on the contract but on other elements of project disbursements. The contractor can also establish a system for monitoring project actions and follow-up activities carried out by missions or countries related to the information and/or guidelines or recommendations generated and disseminated by the project. Most of the S&T contractors are tasked to establish and maintain similar project management information systems and the system seems to work well as long as project management can be clear what it needs and monitors the contractor's submissions. The project Logframe provides a good starting place.

The need for epidemiological and other health information is more complicated. BUCEN is in the process of establishing a system for the Africa Bureau. S&T/Health and S&T/Population already have established systems, with some overlap. Rather than looking to an expansion of the Africa Bureau system, it seems more appropriate to seek S&T agreement to a study of data needs and the best way of meeting them. This study could be undertaken as part of the first year's analytical program or as part of the pre-implementation actions if resources are available to fund it. Even if there is not S&T agreement to study the possibilities of combining their two data base contracts, the Africa Bureau should still look at the possibility of tapping in to one of the S&T data bases. The Bureau could provide the appropriate S&T office with additional funds to expand the contract as necessary to meet AFR needs.

d) Project Funded Personnel

Some or all of the direct hire HHR personnel will be directly involved in the decision making process for the project. Under the re-organization of the Africa Bureau, they are to be partially relieved of other operational duties, e.g., in processing mission buy-ins for services from S&T. Still, they will have some other activities to perform such as reviewing mission strategic plans, representing field needs in general to S&T, and advising other AFR management and other offices on sectoral issues.

Clearly a core group of resident technical staff, funded by the project, would broaden and balance the technical skills available in the cadre of direct hire personnel. In addition, these positions, they can extend the projects ability to provide technical support to missions in strengthening sectoral strategies, API development and evaluations. This could provide an important mechanisms for transferring impact assessment technology and strengthening the skills of field staff (Mission and nationals).

Ideally the skills needed in the project funded staff should both balance direct hire skills and reflect short and long term research and analysis needs. Final decisions and recruitment should be developed in parallel with the initial analytic agenda focus, however it is clear from the assessment for technical focus presented in a separate Annex, that a strong cadre of experience technical personnel with skills in the development of sectoral strategies, policy and technical assessment, and the development and measurement of quality control in health and human resources are critical core areas.

Finally, with the merging of the health and education sectors there is an additional need to develop consistent procedures and approaches to the utilization, roles and responsibilities for the project funded staff.

3. Role of the REDSOs

The PID envisioned a significant role for the REDSOs. However the Bureau is currently reviewing the status of the REDSOs. The present design, therefore, is largely silent on the role of the REDSOs, with the exception that regional advisors might be funded to coordinate and collaborate with the REDSOs and to link the project's strategic objectives with parallel REDSO activities.

Phase out and bilateralization of the current regional service delivery projects and the emphasis on measuring progress towards DFA objectives will place, for the short term, management and programming pressure on Missions, particularly small missions with limited staff. The project can play a role in ameliorating this situation through positioning regional advisors on continent, preferably at the REDSO's, to assist with the formulation and implementation of analytic activities that strengthen mission sectoral strategies and

contribute to the project' strategic objectives. Finally, if the project analytic agenda strategy is to be demand driven then decisions can not be made centrally without formal systematic input from the field, a process which could be facilitated by REDSO regional advisors.

D. IMPLEMENTATION ISSUES

1. Strengthening National Analytic Capacity

The analytical program being organized under this project will be more effective if the importance of research and analysis is recognized by partner country policy makers and the research and analysis capability of the countries is strengthened. In the long term, the sustainability of HPN and EHR programs will require increased African analytical capability and the ability of partner country institutions to collect valid data, analyze and use the information for program and policy decision making.

What is less well understood at this junction is what is the most appropriate investment policy for A.I.D. to take to strengthen national analytic capacity.

There are two avenues that project can take on this issue. The first approach would be to give this issue priority on the project's analytic agenda, thereby generating an understanding of the problems, constraints, the impact of current investments, and costs of possible strategies for strengthening national research and analytic capacity. This would provide the foundation for the Bureau to determine program and policy priorities.

The second approach would be to develop a role for African institutions as collaborators or as on-continent contractors. The prime contractor could sub-contract with African institutions to provide an on-continent mechanism for analytic assistance on services delivery and policy framework needs, strategies for specific interventions, etc. The institutions could become the focal point for dissemination strategies.

2. Resource Needs

a) Bureau for Science and Technology

The review of the S&T portfolio presented in Annex estimates that approximately 80% of the HPN technical assistance need to implement project research and analysis is available through existing S&T cooperative agreements, PASAs and contracts. While the HPN offices in the S&T Bureau have an impressive array of analytic activities and have amassed considerable organizational and contractor talent there are significant gaps that can be bridged by the HHRAA project.

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- In General, S&T studies have focused on vertical programs and the Health, Population and Nutrition Offices have supported discrete and separate studies to address the problems their programs face in providing these services and/or in reaching their targeted client groups (often the same groups) for these services. **Thus the research has not for the most part addressed how HPN services can be delivered in a more integrated fashion.**

- Much of the research conducted has been primarily country or site specific. There have been very few comparative or cross-cutting studies that have examined delivery strategies across vertical programs, or in several countries. **Consequently, the results of many studies, though useful in the particular setting, have had limited utility across programs or countries and the findings of these studies have not been widely generalizable.**

- Much of the research has addressed discrete HPN interventions (e.g. family planning methods, oral rehydration solutions, vitamin A deficiency, etc.) and ways of improving the acceptability, efficiency and effectiveness of interventions provided through vertical programs. Policy analyses have also focused primarily on understanding and overcoming constraints to specific vertical programs. **The studies conducted under S&T projects have not met the need for analyses that can help determine how to better allocate resources among programs and between curative and preventive strategies.**

- Opportunities for secondary data analysis have not been widely exploited. The DHS surveys, for example, are a particularly rich source of data and the DHS project has only recently begun to draw on their extensive country data files for cross-cutting analyses. Most of the research and analysis projects in S&T have not emphasized cross national analyses and synthesis. **In general the capacity to produce data has exceeded the capacity to analyze it, and apply its findings and implications in planning and organizing more effective health services.**

- The presentation and dissemination of research findings have not been sufficiently emphasized. Many of the studies have produced highly technical research reports that have been more targeted to researchers than policy makers or program staff.

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> Too little attention has been given to presenting research results in formats that will lead to decisions by policy makers and program managers. In addition, research results have often been viewed as ends in themselves rather than means to strengthening programs, and too little attention has been given promoting the application and utilization of results of analyses. **The knowledge that has been gained by the extensive research efforts described above are therefore not being widely applied to improve policy or program decisions, allocate resources, or strengthen services.**

These gaps represent a significant area for collaboration and planning between the two Bureaus. In order for the project to forge an effective and collaborative relationship with S&T that can address these gaps it will be necessary for the HHRAA project to establish a structured process for joint planning.

Extensive use of S&T centrally funded projects as the major mechanism for implementing research and analysis will require additional effort and discipline on the part of the Project Officer in order to assure adequate fiscal and technical oversight.. Specifically, it will be important to develop detailed Memorandums of Understanding for OYB transfers and "buy-ins" to central contracts and a system for monitoring contractor performance.

While the majority of technical resources needed by the project are available in S&T there will be the need for long-term project specific resources and skills that would be more management efficient to contract directly.

b) A.I.D. Data Sources

A number of data bases and information sources are currently available for use by AFR. Many, however, are underutilized by the Bureau, in that their full potential to support and/or disseminate analysis has not been explored. A close examination of the potential utility of each of these sources to project activities should take place during the early phases of the project. However, the following is a brief outline of the current functions of each of these sources, and few examples of ways in which their utilization might be expanded under the project:

Center for Development Information and Evaluation (CDIE): Within A.I.D., CDIE maintains a research staff of 14 to provide services to missions and A.I.D./W. Two CDIE staff members have been designated to work with the Bureau for Africa on identifying and meeting its information needs. CDIE accesses on-line data bases from commercial sources (MEDLINE, POPLINE, ERIC, etc.), from A.I.D. projects and contractor studies, and from

other international organizations such as ILO, World Bank, etc. Staff members are available to conduct researches of these on-line data bases on request.

CDIE's A.I.D. data base is an obvious resource for the dissemination of research and analytic results, and it is used in that capacity now by AFR/TR. Staff members from the project should meet with one or both of CDIE's Africa resource persons to explore whether CDIE could be used to promote missions' awareness and utilization of the products of HHRAA activities. These two resource persons might also be encouraged to develop an information sheet which describes the various data systems accessed by CDIE and offers suggestions about how they could be most useful to the project.

Bureau of the Census (BUCEN): Through a PASA agreement, BUCEN provides data and analysis services to AFR/TR in four primary areas. First, it has developed and maintained electronic Africa Data Bases in health, population and nutrition. Access to these is through the HPN Division's Local Area Network (LAN) system. These data bases are currently being expanded to include country profiles for all Bureau-assisted African countries. Second, BUCEN conducts analyses of the quality of data collected by Bureau project. Third, BUCEN monitors the ACSI-CCCD project by tracking operations and expenditures, and finally, it provides technical support to USAID missions who request assistance in the collection or analysis of data.

In Africa, BUCEN is assisting with the planning and implementation of census data collection in about 15 countries. There has been some suggestion that the activities of BUCEN could be expanded to include economic surveys and economic analysis, as well as participation in the development of improved methods of measuring program impact in region. The Scope of Work under which BUCEN operates in AFR/TR was designed to be flexible enough to allow for initially unforeseen requirements; hence, utilization of this mechanism could be expanded in any of a number of directions.

Centers for Disease Control (CDC): Through the ACSI-CCCD project, CDC strengthens national capacity to collect, analyze and use health data in African countries. ACSI-CCCD epidemiologists track specific child survival indicators in their target countries, such as immunization rates, use of ORT, etc. Although reports summarizing this information are released quarterly and annually, there is a significant amount of raw data that is potentially available from CDC in addition to these reports. Hospital surveillance data on target diseases is also collected in some countries, and specific studies are conducted on topics such as the impact of malarial prophylaxis in pregnancy on subsequent birth weights, and the useability and cost-effectiveness of insecticide-impregnated bednets for malaria control.

CDC has pioneered certain approaches to mortality change and assessment of project impact in Africa. Most notably, the Mortality and Utilization of Health Services (MUHS)

surveys have attempted to measure impact by linking improvements in child survival directly to increased usage of health services. CDC has also been involved in trails of the Preceding Birth Technique for establishing mortality rates and causes of death in children. Though some adaptation of them might be required, the project should examine the potential role of these methodologies and data bases in the Bureau's efforts to identify emerging health issues in Africa, and to monitor the impact of A.I.D.'s interventions there.

A careful synthesis of the existing evaluations of these technologies should be undertaken by the project. The synthesis should take full advantage of the prior S&T/H assessments of these technologies and build on this foundation. Of particular concern are the programmatic implications, costs, management institutional capacity and infrastructure needs to maintain adequate health reporting.

International Science and Technology Institute (ISTI): Through a contract with S&T/Health, ISTI manages the following components of A.I.D.'s health information system: 1) the Health Projects Data Base keeps account of all A.I.D.-funded projects in the health arena, including use of funds, contractors, etc., and 2) the Health Statistics Data Base tracks longitudinal trends in selected demographic and health indicators, with an emphasis on child survival indicators. Information for both of these data bases is served in part from the results of the USAID Health and Child Survival Project Questionnaire, which is completed annually for all A.I.D. projects in the field and in Washington. ISTI utilizes these questionnaire results, together with data from external sources such as the UN system, DHS, CDC, and professional and scholarly publications, in its compilation of an annual report to Congress on the status and accomplishments of the USAID child survival program.

ISTI is a valuable resource to A.I.D. because it collects information from a wide variety of sources, and clearly documents these sources for easy reference. ISTI's data bases include selective data relevant to A.I.D.'s project intervention, including child survival and AIDS. It may be possible to selectively expand ISTI's capacity to provide broader documentation to the status of populations, nutrition, educational programs and economic indicators through the buy-in mechanism. For example, in 1990-91, a Bureau buy-in to ISTI supported the preparation of an Africa nutrition data base and a nutrition strategy background paper based upon this data.

Demographic and Health Surveys (DHS): DHS, in addition to its published Country Reports, maintains extensive on-line data bases for each country in which a survey was conducted. These data bases contain information relevant to technical, management and quality-of-care analysis. Although one project on AFR/TR/HPN's 1990 Analytic Agenda was aimed at improving nutritional coverage by DHS, AFR/TR has not exploited the full potential of the on-line data bases. For example, although many field missions outlined plans to use DHS to measure project effectiveness in their countries, the impact assessment possibilities of DHS have not been fully investigated by A.I.D./W. To facilitate examination

of the impact of projects that have been implemented only in pilot areas, data can be disaggregated by region within countries. In addition, DHS makes cross-country comparisons possible, since the core questionnaire of the survey instrument is standard. DHS's data on literacy rates and educational levels of all members of sample households could contribute to cross-sectoral studies in the health and education or population and education sectors.

DHS can be made more useful not only by expanding utilization of currently-collected data, but in addition, selective investments in related sub-projects that could clarify ambiguities in DHS data should be considered. For example, if DHS results suggest under-utilization of health care facilities or family planning services, an explanation could be sought through small focus-group or case history studies in target areas. Another area of potential expansion is the use of in-depth health and population modules added to the core questionnaire. These might include verbal autopsy, maternal mortality or AIDS modules. For any large DHS-related projects, collaboration with other interested donors is a possibility.

Other S&T Projects: S&T and its contractors are engaged in a number of data collection and analysis activities which have clear pertinence to the mandates of the project. Although these projects are addressed to worldwide problems and issues, Africa-specific components may already exist or could be developed in collaboration between the Bureau and S&T. For example:

> Data for Decision Making: The purpose of the project is to improve the use of existing information in health sector decision making. One component, a contract with the National Academy of Sciences (NAS), identifies emerging health issues, inventories changing demographic trends and related emerging health issues, and examines the policy and planning implications of these issues for the health sector. It provides partial support for the Panel on Population Dynamics in sub-Saharan Africa.
>
> Another component of DDM, implemented by CDC under a PASA agreement, is concerned with the analysis and presentation of information to decision makers in participating countries.
>
> The third component will provide policy analysis, support for in-country analytic and policy-related activities, and development of tools and approaches to increasing the use of data in health-sector decision and policy making. Experimental aspects of the project will encourage broader participation in decision making as part of the Agency's Democratic Initiative.

Family and Emerging Health Issues Project: This project also contributes to efforts to identify diseases and other health problems that will be of greater importance in the future, and analyzes the policy implications of these issues.

Quality Assurance Project: The Q.A. project carries out activities to develop, refine, and institutionalize practical approaches to assure the quality of care in LDC health programs. A central data base includes project-generated information on quality-of-care indicators, with an emphasis of process measures. Also included are findings from different quality assessment and quality improvement intervention (problem identification and problem solving,) and selected Q.A. publications. USAIDs may request analysis of project experience for any well-defined issue related to improving the quality of health services.

3. Role for a Prime Contractor

The evaluations of current regional projects point to a number of institutional factors that hinder the ability of the AFR/TR office from developing a coherent and comprehensive approach to research and analysis. Foremost among these is the failure to direct adequate attention to the organizational and management factors that are the major determinants of institutional performance. These organizational and management factors are frequently referred to as the "process" for getting things done as opposed to the product or technical content/focus of the activity. In most cases the "process" components of regional projects and research and analysis activities in AFR/TR/HPN are weak if not absent. This contrasts sharply with the strong technical expertise of the cooperating agencies and/or prime contractors under the current regional projects or available through S&T.

The imbalance between management/organization capacity and the technical capacity of the office suggests that there is a need to develop an equilibrium between the "hard" and "soft" technical skills. The WASH project can serve as a possible model for combining both the technical and process skills need to develop a dynamic, creative approach to complex development issues.

It is recommended that the prime contractor for the project focus on the process aspects of the project and bring to the equation new management tools, particularly in the area of strategic planning and management; new techniques and strategies that increase and broaden participation, team performance and improve decision making and increase commitment to action.

The prime contractor would provide the necessary organizational design, facilitation, management and administrative support to all phases of the analytic process, (for example,

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designing, organizing and facilitating field and Washington decision making forums that determine research priorities and set strategic objectives).

The prime contractor should also play a secondary technical support role. Within this context the contractor will be expected to carry out, either on its own or through resources it can easily access, those analytic tasks which are not available from S&T or other (e.g. IQC) contractors. In addition, the contractor could arrange for appropriate technical oversight during critical points in the analytic process and provide flexibility and intellectual broadening for the project--e.g., bringing in specialists and renowned experts to participate in reviews of study proposals and study reports or in key dissemination activities, conferences, etc.

Finally, the contractor should take on the major responsibility for the design, coordination or implementation of innovative dissemination strategies to assure that project research and analysis is relevant to targeted audiences and is in a form that maximizes their utility.

General responsibilities that cut across the roles described above include maintaining a fiscal and operational MIS to track the status of research and analyses; documenting decisions at all analytic phases; providing general administrative support and developing a monitoring system to assess the utility and relevance of the analytic products and process. In addition the contractor should be tasked with the responsibility for developing a strategy for assuring African collaboration and participation during all phases of the analytic process.

4. Measuring Project Impact

To maintain consistency with field programs, the project should hold itself to the same standards of performance and impact as Mission programs. This will require a much different approach to regional project monitoring and evaluation and serious attention to setting measurable project objectives and identifying appropriate indicators.

It will be particularly important to monitor and evaluate the dissemination component of the project and to develop objectives and performance indicators for the management process, (strategic as well as operational).

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ANNEX J

COMPLETE SOCIAL SOUNDNESS ANALYSIS

SOCIAL SOUNDNESS ANALYSIS

Conventional social soundness analysis is generally inappropriate to regional support projects such as HHRAA, since social, cultural and economic conditions vary widely across the continent. Additionally, it is difficult to define specific categories of beneficiaries when the services planned are analytic. With respect to HHRAA, then, social impact and social feasibility analysis is doubly complicated, because (1) HHRAA is a regional project, and (2) because the project is designed to enhance the functioning of missions and country-wide education and health delivery systems, rather than to implement specific health, education or population activities which directly impact beneficiaries.

For this reason, the social soundness analysis will, instead of describing beneficiaries and their interests in detail, establish principles for assessing issues such as the following: 1) what are the social analytical issues which should be considered in assessing project impacts and in setting research priorities, and 2) how can the social benefits or costs of health, education and family planning activities be factored into field missions choices of specific intervention packages?

Nevertheless, certain very general characteristics of the beneficiaries of health/population/education programs, and of the organizations that plan and implement these programs, are common to most of the region, and these characteristics may be relevant to the analytic focus of HHRAA at two levels. First, these beneficiary factors may present opportunities or constraints which must be taken into account when planning the project's analytic agenda. Second, the social characteristics of project beneficiaries may constitute topics for specific research studies, when they are expected to influence the outcome of service delivery strategies.

(a) Socio-Cultural Context:

Although USAID missions and African policy makers and program managers are cited as the project's beneficiaries, the project is designed impact on services to the rural and urban families, especially women and children. Analytic considerations in HHRAA should include identifying social and behavioral characteristics of these beneficiaries that may influence their ability to utilize or benefit from health, population and educational services. The following list of social, economic and behavioral issues exemplifies the type of investigation which could contribute to more appropriate allocation of resources

among and within sectors and deployment of services within the region:

Issue 1: Survival Strategies/Coping Strategies/Household Income Source: The majority of Africans dwell in rural areas and rely on the agricultural sector for a livelihood. World Bank data suggests that the 1980s have witnessed a growing impoverishment among rural households. Careful analysis of financing options will be required to identify cost recovery strategies that will maximize both sustainability and equity. Research questions might include the following: What economic, regional, social (especially gender and ethnic) components of the population "lose out" under current or proposed structuring of health and population programs? What factors prevent them from participating in benefits? What are the most cost-effective means of including them in the circle of those covered by services? How does this impact service delivery?

Issue 2: Educational levels: High illiteracy rates prevail among both males and females, and World Bank observers have detected a decline in educational quality during the 1980s. Among non-literates and semi-literates, positive receptivity to and assimilation of messages that are promoted through conventional channels cannot be assumed. An accurate understanding of media habits, communication patterns and common assumptions about health among semi-literate rural populations may be required if effective health and population communications planning is to take place.

Issue 3: Family/social structure: Important lineage and extended family ties and fragmented family groupings characterize both rural and urban dwellers. These structures impose demands, but provide important connections and both routine and emergency support. Examination of the role of extended family networks (and of networks based on other factors such as proximity, ethnicity, etc.) in determining individual access to family planning, adequate nutrition and treatment resources could contribute to better planning and communications in the health/population sector. Similarly, a systematic investigation of the support obligations and capacities of African extended families can contribute to realistic planning for the needs of AIDS orphans and other children "at risk" due to disruptions in the caretaking family unit.

A new Agency initiative has highlighted the fact that the family is a critical factor in social and economic processes, affecting (among other things) consumption patterns and decision-making about use of domestic resources. Household-level research can contribute to the ongoing discussion of the hidden impact of illness, in terms of altered patterns of productivity and labor that accompany medical expenditures within the family of the sick individual.

Issue 4: Women's traditional roles and labor obligations: Throughout most of Africa, women must divide their time between their functions as the primary caretakers of children, and their functions as agricultural, industrial or commercial workers. The traditional contribution of African women to income generation imposes time constraints on them as mothers and health providers. At the same time, their participation in productive work allows some economic control.

Social research has revealed that modern (especially urban) technological and legal systems have undermined some African women's traditional rights and productive roles, eroding their control over resources such as income and food. Since women are usually responsible for providing food to small children, women's loss of income could exacerbate nutrition problems within this age group. Analysis of African women's traditional roles and the impact upon them of social change could elucidate the health and population significance of factors such as the following:

1. Growing female participation in wage labor may hinder breastfeeding and require substitute childcare or support from the extended family.

2. Traditional social forms and practices, such as brideprice and patrilineal affiliation, may weaken women's control over reproduction through group pressure to produce as many new affiliates as possible. This push toward maximum fertility could be exacerbated by breakdowns in tradition birth-spacing mechanisms, such as extended post-partum abstinence.

(b) Socio-Cultural Issues in Program Planning and Tracking for Results

HHRAA can be useful in analyzing a variety of social, cultural and economic questions contributing to missions' and governments' identification of the most policies and packages of HHR interventions to meet country needs. Analytic guidance will be available from the Project for this purpose, and for subsequent monitoring, evaluation and framing of cost-effective approaches to reporting.

For example, in the process of CPSP design, missions may require assistance in identifying, interpreting, and prioritizing pertinent socio-economic factors. Assessments of the social impacts of illiteracy, male/female school enrollment and attendance, health conditions and of health/family planning services are, therefore, a necessary part of the analytic support that will be provided by HHRAA to decision-makers and HHR sector planners. Inclusion of social factors in the analysis that precedes strategic planning will promote effective planning for "people-level" impact. HHRAA's analytic priorities

ANNEX K

JUSTIFICATION FOR HHRAA ANALYTIC AGENDA

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A. INTRODUCTION

The health and human resource needs of the African sub-continent have been well documented. From these findings has emerged a picture of a continent severely beset by a host of major health and human resource problems: malaria, diarrheal diseases, measles and other immunizable diseases, malnutrition, AIDS, low levels of primary school attendance and literacy, poor teacher training and motivation and severe resource constraints affecting investments in the human resource sector.

African countries require assistance from donors to organize their health and human resource systems to resolve these problems. For some of these problems, the technical solutions may be known, but the best means of implementing them are unknown, unevaluated, or simply inadequate. Thus, the solutions may be organizational and institutional. For other problems, more research may be still needed to understand and resolve the technical aspects. For all the problems, African governments need to find the means of resolving them in ways which are cost-effective given the generally dim economic prospects these countries will confront during the next decade.

B. THE STATE OF KNOWLEDGE ABOUT AFRICAN HEALTH PROBLEMS AND TECHNICAL AND ORGANIZATIONAL SOLUTIONS

The decade of the 1980's could be characterized as a decade of progress and problems relating to the health and survival of children in Africa. During this decade remarkable progress was made in improving the survival of children in Africa, and during this same decade, possible threats to continued progress emerged. In addition, many lessons were learned from the highly intensive and concentrated efforts at expanding services and coverage through child survival interventions and the expanded program of immunization, and many unanswered questions remain.

From the experiences of the 1980's it is apparent that there are no magic bullets to wiping out the diseases and health problems afflicting Africa; that while declines in infant mortality rates were achieved, African children continue to die from preventable or treatable illnesses at unacceptably high rates (U.S. Department of Health and Human Services, 1991, Waldman, et al., 1991). Moreover, as both preventive and curative health services became more widely available, concerns emerged about their sustainability, and social, economic, informational and behavioral obstacles constrained the utilization of these services and limited their potential impact. As more technological tools for the control of specific diseases became available, there were also potential interventions that remained undeveloped, and new and resurgent diseases to treat.

The role of the HHRAA project is to enable the Africa Bureau to undertake research and analysis on those organizational and institutional problems which constrain the implementation of policies and programs aimed at improving the health and educational

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status of African populations. In addition, the Bureau needs to develop the capacity to identify and analyze those areas where more technical knowledge is needed to assure that such research is undertaken, and the Bureau needs to be able to access adequate, appropriate, and timely data on measures of program progress and impact to meet its research and analytic needs.

In this section, we will analyze the state of knowledge and research about technical and organizational solutions to the major health problems affecting African countries. We will analyze this in terms of the challenges to delivering health services and in terms of the organizational, institutional, behavioral and financing issues which cut across these health and service delivery problems and are common to many of them. We will also summarize how these issues are being addressed by A.I.D. and other donors and note where informational gaps exist that might be filled by The Africa Bureau HHRAA project. We have identified six major areas that could profitably be studied under the HHRAA project. They are: the delivery of health interventions; support systems; changing behavior; organizing services; health financing and assessing health services.

1. The Delivery of Health Interventions

Emphasis on service delivery during the last decade focused on the implementation of selected child survival interventions, and at making preventive services more widely available. Waldman (1991) notes that by the beginning of the decade of the 90's both preventive and curative services aimed at improving the health and survival of children were widely available in many African countries. He also observes that important advances were made in achieving immunization coverage and treatment of diarrhea, but points to areas where further developments are needed such as technical strategies for the control of ARI, and interventions directed to reducing the transmission of the HIV virus.

Reflecting both on how far we've come and the distance yet to be traveled, Waldman and his colleagues at CDC suggest a need to refocus service delivery efforts on an integrated approach, and suggest that case management and vaccination programs could become the foundations of such an approach, and that the EPI program could provide a "hook" to draw people into the health system. He also suggests that EPI services should be provided together with case management programs as visits to health care facilities are frequently missed opportunities for immunizing children.

This section will address three key issues related to strengthening health interventions: increasing vaccination coverage, improving case management and addressing the technical needs arising from new and resurgent diseases. Support system issues are addressed in subsequent sections.

Increasing Vaccination Coverage

Significant progress in reducing infant and child mortality can be attributed in part to the broad-based success of The African Expanded Program on Immunization (EPI) during the 1980s. Within the past decade, most African countries made progress towards achieving their immunization targets--80% vaccination coverage in children by twelve months of age--though few countries actually achieved 80% coverage for critical antigens such as measles (Foltz, et al., 1990).

Coverage of measles and tetanus toxoid - vaccines that provide the greatest benefits in saving lives - has lagged in coverage behind other immunizable diseases and measles is the biggest killer among the EPI target diseases (Foltz, et al., 1990). Obstacles to expanding coverage are caused by drop-outs (those who receive some but not all of their required shots) and "missed opportunities" (contacts with a service provider that do not result in the vaccination of an eligible adult or child). Reducing dropouts is particularly important for the control of measles because the measles vaccine is the last in the series to be administered and dropouts generally increase at each stage in the vaccination series.

CCCD supported studies have shown that coverage could be increased if missed opportunities are reduced. However, further work is needed to determine the extent of the increase in coverage that could be achieved, whether it is feasible for health workers to fully implement a strategy of vaccinating at all opportunities and the effect of the strategy on vaccine wastage (A.I.D., 1991). Some of these questions may be answered by an intervention trial currently being conducted by CCCD in Togo.

There are also concerns about whether the progress that has been achieved in increasing coverage can be sustained. Many countries, particularly those with low coverage rates or those facing an outbreak of disease found immunization campaigns to be good way to increase coverage rapidly (Foltz, 1991). The extensive logistical preparations required for carrying out mass campaigns, however, are hard to sustain and campaigns are limited in their usefulness as an ongoing strategy. If an infrastructure for providing continued coverage is not in place when the campaign is over, coverage rates will begin to drop as new cohorts of children are born.

As experience in immunization programs has been gained and programs have matured, it appears that no single strategy can meet the needs of countries that have different disease profiles, health infrastructures and resources, rates and patterns of immunization coverage, and patterns of population distribution. Rather, the challenge is to find that mix of strategies (services from fixed sites combined with outreach, mobile vaccination teams, community vaccination days, and selective use of campaigns) that will lead to both expanded coverage and the sustainability of at least 80 percent coverage rates (Rodrigues, 1989).

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In expanding coverage, consideration should also be given to expanded coverage for other diseases as technological advances occur. For example, it is recommended that immunization against hepatitis B be integrated into national EPI programs (Waldman,et al., 1991). It has also been suggested that the development of a measles vaccine that could be given to infants along with a third DPT injection would significantly reduce the dropout problem.

Improving Case Management

The control and treatment of both diarrhea and ARI could benefit from improved case management. To date, a curative approach to diarrheal diseases, a leading cause of morbidity and mortality in Africa, has been emphasized. The approach has included: health education to foster early home treatment and timely use of outpatient facilities, improving the availability of oral rehydration salts (ORS), training mothers to use oral rehydration therapy (ORT) properly, and encouraging mothers to continue feeding the sick child during diarrhea episodes. Progress in implementing diarrheal diseases programs has been slower than expected (Waldman,et al., 1991).

One of the greatest challenges facing diarrhea control programs is bringing about sustained changes in the ways that families and health workers treat diarrheal episodes in children. Health communication programs have proven effective in increasing both knowledge and practice about the proper treatment of diarrheal episodes, yet a significant knowledge-practice gap exists where actual practice by mothers and communication and counseling - by health workers - lags behind knowledge (Sukkary-Stolba, 1990).

Further progress in reducing morbidity and mortality due to the effects of diarrhea related dehydration will come from more effective targeting of cases of persistent diarrhea, getting mothers to practice exclusive breast feeding for the first few months of life, improved hygiene, clean water, the development of a vaccine against rotavirus diarrhea, the use of cereal-based ORS solutions, and further research on the role of improved nutritional practices in the prevention and treatment of diarrhea.

Acute lower respiratory infection (ALRI) and diarrhea have several things in common: they are both frequent features of life in sub-Saharan African, and the average child may experience several episodes of each a year (Kirkwood, 1989). In addition they are both associated with poor hygiene and aggravated by malnutrition. It is estimated that one half of ARL mortality could be averted by preventive action including better nutrition, improved vaccination coverage, more effective treatment of diarrhea and better diagnosis and treatment of pneumonia. ALRI like diarrhea could benefit from better case management approaches, and mortality from malaria and pneumonia could also be reduced through the prompt identification and treatment of ill children. One important difference, however, is the relative difficulty faced in establishing the diagnosis for ALRI, as its symptoms are less specific that those for diarrhea (Waldman, et al., 1991).

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A number of problems, however, limit the effectiveness of primary health care approaches to these diseases. First of all they all rely on prompt identification of the problem by health workers and access to effective treatments (USAID, 1991a). Secondly, life-threatening but treatable conditions such as pneumonia may be difficult to identify, in so far as similar symptoms may be caused by an array of different organisms. Training primary care-givers or village health workers in early recognition and case management is, crucial for effective case management, but while it appears to be feasible providing sustained supervision and monitoring, is more problematic.

New and Resurgent Diseases

The health status of populations in large portions of Africa are being threatened by the spread of AIDS and the resurgence of malaria. Malaria is one of the leading causes of childhood morbidity and mortality in many countries in Africa and HIV/AIDS is threatening to nullify the gains in child survival that immunizations and other interventions have achieved.

Since no effective cure or preventive antigen exists for AIDS, health professionals must respond to the HIV/AIDS crisis in Africa by improving and promoting interventions aimed at changing behavior patterns. Effective means of reaching individuals who are at risk of contracting AIDS must be employed to persuade them to abandon high-risk practices. Services which promote access to condoms are also needed to complement these initiatives. Studies have revealed that treatment of sexually transmitted diseases may be another important component of AIDS control (Chin, 1989). Further applied and operational research could contribute to identifying the most strategic mix of AIDS-control measures for high-seroprevalence countries, and to preventing AIDS from spreading to countries which are relatively unaffected.

Malaria in Africa is undergoing rapid change in its epidemiology, pattern of mortality and resistance to drugs. During the late 1980s, an upsurge in both incidence and case-fatality rates for malaria throughout sub Saharan Africa was documented. According to WHO, 80% of all cases world-wide occur in sub-Saharan Africa; and 90% of Africans now live in areas where malaria is endemic (USDHHS, 1991). The increase in malaria appears to be due to a number of factors. Growing urbanization, which increases mosquito breeding sites, and the growing failure of previously effective pharmaceutical agents are two of the most significant. Chloroquine-resistant malaria, which began in eastern Africa, now affects virtually the entire region (Bradley,1989).

Established weapons in the fight against malaria have been lost, and no obvious replacements have been found. Second-line drugs are being introduced into some chloroquine-resistant areas, but these drugs may be prohibitively expensive or otherwise difficult to obtain. Non-medical means of controlling malaria, such as by vector control and/or promotion of insecticide-impregnated bednets, are also under study (U.S., 1991a). It is critical that international organizations devote resources to examining the possibilities of various approaches to controlling this disease including support for the development of a

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vaccine. Other aspects of the malaria problem, such as its economic impact, factors contributing to its recent upsurge, the role of community participation in fighting malaria, strategies for control of malaria in urban areas, and the most cost-effective means of financing malaria control programs, also call for in-depth study.

Information Needs

Waldman and his colleagues at the Center for Disease Control (1991) provide a number of suggestions for increasing vaccination coverage and improving the use of case management approaches. They suggest, for example, that EPI be used as a "hook" to draw people into the health system. In light of the widespread popularity and acceptance of the EPI program and its access to a large population of mothers and children, it is an idea that should be studied, perhaps as an operations research design with a control area. Such a study might examine whether it is a cost-effective strategy for expanding the coverage of health services.

Studies conducted by the CCCD program have related to improvements of various vaccines including the E-Z measles vaccine trial, sero-surveys, outbreak investigations, the development of improved indicators and survey methods. More research is needed on factors associated with poor compliance by both health providers and family members, on the feasibility of adding rotavirus vaccination and vitamin A and Iodine supplementation to the EPI program, and on the impact of different strategies to expand vaccine coverage.

Information is also needed on how to combine vaccination efforts with case management approaches, and assessments should be done of pilot efforts to determine whether this strategy works and whether it should be replicated widely.

In the implementation of vaccination programs, training and management of the cold chain has been identified as a program constraint. The exploration of simpler less costly ways of maintaining the cold chain could contribute significantly to improved program management and expansion.

The complexity of malaria as a disease and its rapidly evolving character require additional information on the effectiveness and consequences of certain interventions such as the chronic consequences of incompletely treated malaria on childhood anemia and the optimal methods for preventing malaria in pregnancy (Waldman, et al., 1991).

More research is needed on the feasibility of adding rotavirus vaccination and vitamin A and Iodine supplementation to the EPI program, and on the impact of different strategies to expand vaccine coverage. Also because of the pervasive impact of HIV/AIDS on the health care system, and the fact that it shares support systems with other disease control programs, operational studies on the feasibility of integrating AIDS control programs with existing programs are needed.

2. Support Systems

All disease specific programs rely on a common set of support systems and their long term sustainable success may very well be determined by how well these support systems function. Unfortunately, HPN programs at the country level are characterized by support systems that are inadequate to foster efficient and effective management of needed technical interventions and by a dearth of trained personnel who can manage programs, supervise health workers and improve systems. Manpower and logistical support systems are often separate systems linked to specific technical interventions and as a result they are frequently duplicative.

Training and Supervision of Health Care Workers

The application of the available knowledge and primary health care technologies depends on the availability of well trained and motivated health personnel. However, numerous observers (Brownlee 1990 a,b; Waldman, et al., 1991; Pillsbury, 1990, DiPrete, 1991) have noted that training, supervision and motivation of personnel to adopt and promote new health practices is often deficient at all levels of the health system in developing countries.

Experience with ORT programs, for example, shows that information collected by supervisors either from formal health reports or visits to project sites rarely is utilized to identify problems and formulate solutions to service delivery problems (Arroyo, et. al, 1983). PRICOR systems analyses found wide spread discrepancies between supervisors' perceptions of quality of care and actual health worker performance and supervisors frequently overestimated the performance of health workers (Nicholas, et al, 1991). In many cases, supervision visits were also found to be infrequent.

Health worker training has been heavily evaluated and a lot has been learned about effective training techniques (Waldman, et al., 1991) Training evaluations have established that it is possible to design effective training programs that teach health workers what they need to know and that improves their performance on the job.

Sustaining health worker performance requires not only good initial training, but continued in-service or on-the-job training. Few organizations conduct evaluations of worker performance on the job following training, and there is limited experience with incorporating information on worker performance into subsequent training events so that performance problems are addressed (Foltz, et al, 1991). The studies that have been conducted, however, underscore the value of such follow-up. In Niger, for example, investigators found wide disparity between tasks taught in training and village health workers performance of tasks after training. They also found that preventive and educational tasks tended to suffer the most (Center for Human Services, 1989).

Most follow-up studies indicate that good performance requires refresher training, and that on-going supervision is critical for continued worker performance (de Paredas, Soto, 1989). Nicholas and others (1991) note, however, that most supervisors do not receive training in supervision, do not have a clear understanding of the purposes of supervision, and do not have well developed supervisory skills.

Logistics Systems

Effective malaria, diarrheal disease control, and acute respiratory infections programs require a reliable system of drug distribution to assure that the prescribed treatments (anti-malarials, oral rehydration salts, and antibiotics) are accessible to the population. Yet, few African countries can presently assure steady supplies whether through the public or the private sector. Rationalizing drug procurement and dispensing could also substantially reduce costs. (Blakney, et. al, 1989). A drug study in Mali for example, showed that 15 to 20 percent of the drug budget could be saved if the procurement strategy for one widely used antibacterial drug were improved. (World Bank, 1991) In the Eastern Caribbean the regional integration of pharmaceutical services and the establishment of a pooled tendering system resulted in an average savings of 44 percent on the unit cost of drugs during the first tender cycle and even greater savings in the second(U.S.A.I.D., 1991d).

The decade of the 80's has seen remarkable growth in the local production of oral rehydration salts. By 1988, almost 75 percent of ORS production was taking place in the developing world and private firms in Ghana, Uganda and the Cameroon are developing the capacity to launch ORS products (U.S.A.I.D., 1990). Both family planning and AIDS control programs rely on an effective distribution system for contraceptives and opportunities exist for collaborative efforts at establishing plants for their manufacture, and a supply and distribution system.

Information Needs

The delivery of all health services depends heavily on a well trained and motivated cadre of health workers - from the management and supervisory level to the clinic and field level. Unfortunately, numerous observations and studies of the performance of health personnel point to deficiencies in the information they provide clients, the manner in which they provide the information, as well as how they provide care (DiPrete, 1991, Favin, et al, 1986, Gallen, et, al., 1987). Currently many training efforts focus on both pre-service and in-service training to impart skills and reinforce learning. However, the basic problem is that health workers are poorly trained in their schools and universities and thus by necessity many of these training efforts must compensate for basic deficiencies. (Waldman, et al., 1991). Efforts thus need to be directed at upgrading the educational system, and information is needed on how that might best be accomplished.

Research and information is also needed on the training techniques that have proven to be the most effective, so that they can be employed more widely. Techniques that would

allow for concurrent training in several interventions are also badly needed, as most courses focus on one or two interventions. Several projects (most notably the PRICOR and Quality Assurance projects carried out by the Center for Human Services) have developed protocols and aides to help workers provide good care. They need to be tested more widely under diverse conditions, and disseminated if found to be effective. In addition, supervisors need tools to help them link supervisory visits to improved worker performance.

Alternative systems for drug procurement and distribution need to be studied and the conditions for success distilled, and then tested in other settings. Also, pilot efforts combining contraceptive distribution systems for AIDS and family planning are also needed.

3. Changing Behavior

A front page article in the Washington Post about AIDS in Africa quoted health officials who observed

> Virtually everybody knows about AIDS in Africa and how it is spread. But the lesson we have learned is that information is not synonymous with behavior change.... We just don't have enough information that we ought to have about what works and what doesn't work (December 19, 1991).

The same could be said about other health interventions such as ORS, immunization and family planning, which depend for their success on people acting on information and behaving in prescribed ways. Treatment for diarrhea, for example, requires the child's care giver to accept rehydration therapy as an appropriate treatment, and to mix and administer the solution properly. Child immunization programs require that the child be brought to the health center at specified times so that he or she is maximally protected. Effective child spacing requires acceptance of a contraceptive, and for those methods that are patient dependent, its proper use. The spread of AIDS could be significantly altered if at risk populations used condoms and practiced safe sex. But the challenge facing health professionals is knowing how to communicate information so that attitudinal barriers are overcome and behavior change results.

The task of educating people on matters of health and enabling them to change their behaviors is more complex and difficult than was initially believed. Many factors beyond the information people receive influence how they behave, and health education has evolved from focusing on individual behavior change to a concern for organizational, economic and environmental factors that affect health (World Health Organization, 1983).

A considerable body of research has been amassed to better understand the social, cultural and behavioral factors that inhibit program effectiveness and to examine how to adapt child survival technologies, delivery systems and promotional approaches to individual countries and cultures. Study results have been synthesized and monographs produced on behavioral issues related to oral rehydration therapy (Sukkary-Stolba, 1990), immunization

(Pillsbury, 1990), breastfeeding, weaning and nutrition (Brownlee, 1990a) and growth monitoring and promotion (Brownlee, 1990b). These and other studies point to the following combination of factors which affect the acceptance of health information and behavior change: specific population characteristics and belief systems, health worker practices, health communication approaches, and features of service delivery systems.

Population Characteristics and Belief Systems

During the 1970's and 80's numerous studies examined the determinants of fertility and mortality (United Nations Department of International Economic and Social Affairs, 1975; Bongaarts, 1978), and the relationships between social, economic and cultural conditions and practices, and fertility and mortality. Numerous studies also examined the relationship between socioeconomic characteristics and health behaviors such as acceptance of immunization or family planning or the use of health services. These studies have shown that low socioeconomic status, low incomes and low educational levels of mothers is usually associated with low acceptance of immunization (Pillsbury, 1990), less knowledge of modern methods of contraception (Rutenberg, et. al, 1991), lower levels of acceptance of modern methods of contraception (Frank, 1987), and less use of prenatal services (Parker, et al., 1990). Analyses of demographic and health survey data show a strong association between the mothers' educational level, the use of health services, and the promptness with which care is sought (Okafor, 1991).

Urban and rural differences in health practices and use of services have also been studied. Akin, et al. (1985) found that a smaller percentage of rural women than urban women use prenatal care services, and poor rural women who seek prenatal care make fewer visits to health care providers, on average, than do poor urban women. Less use of services among rural populations have also been observed. However, the evidence is contradictory as studies from the Philippines and Turkey suggest that many unreached families live in cities, slums and squatter areas (Pillsbury, 1990).

Ethnographic and anthropological studies have also been conducted examining relationships between cultural and communal norms, religious belief systems and health behaviors. These belief systems influence how communities explain illness, define acceptable treatments and even who may receive care or the priority with which they may receive it. Diarrhea, for example is perceived by some groups as dangerous and life threatening and accepted as a normal part of life by others. Purging and withholding of foods during episodes of diarrhea, measles and other illnesses are common (Sukkary-Stolba, 1990). Cultures have different perceptions about disease prevention and some cultures even have a traditional form of vaccination (Pillsbury, 1990). In some societies the preference for sons may influence the extent to which girls are adequately fed or immunized. A study in Nigeria found that among fully-immunized children, the family was small, the mother young and better educated and a higher proportion of children were boys (Akesode, 1982). In South Asia, intra-household discrimination against daughters in the allocation of food and medical

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care is especially strong and such preferences put females at greater risk and results in higher death rates for girls (Pillsbury, 1990).

Research examining the socioeconomic and cultural correlates of health behavior is much more extensive than the literature which attempts to explain the reasons for these relationships, and more importantly how health providers armed with this information can use it to design programs to overcome attitudinal and cultural barriers to health interventions and service utilization.

Health Worker Practices

Provider behavior is influenced by what providers know and believe and health providers in many developing countries are the products of medical and nursing schools which place little emphasis on health promotion and interactive communication with patients. Child survival programs on the other hand depend on effective communication, and there is substantial evidence to suggest that the interface between the mother and the health provider is the key to the mother's knowledge and practice. Studies have shown that ineffective communication between health workers and caretakers limits the impact of child survival interventions. Direct observations of growth monitoring sessions in Zaire for example, showed that health workers failed to consistently inform and counsel mothers that their children were not gaining sufficient weight. As a result more than half of the mothers whose children were malnourished believed that their children were growing well (Stinson and Sayer, 1991). In the seven countries in which growth monitoring programs were studied by the PRICOR project, fewer than 40 percent of the parents were told the date and time of the next weighing. The lack of basic knowledge about immunization among providers is believed to be a major contributing factor to missed vaccination opportunities (Pillsbury, 1990).

Provider attitudes and behaviors also affect service acceptability, quality and accessibility. A study in Nepal using a simulated client approach showed that lower caste women were so poorly treated that they would not return to the clinic even if paid to do so. Observations of the clinic staff showed that they were highly authoritarian, and discouraged clients from asking questions, spent little time and gave incomplete or inaccurate information. (Schuler, et al., 1985). Similarly, in Imo State, Nigeria, focus group discussions revealed that government facilities were underutilized because of the harsh and uncaring attitudes of staff (Piotrow and Meyer, 1991). One of the main reasons for low acceptance rates of ORT by the public in developing countries is believed to be based on the negative attitudes of physicians and other providers (Carpenter, et al., 1987).

A REACH study on the acceptability of immunization observed that parent's trust in health workers were important determinants of acceptability. Health workers play an essential communication role in transmitting crucial information and motivating return visits (Favin, 1991). Health workers actions have been observed to be a major determinant of

whether parents will return with their children for the full series of immunization (Pillsbury, 1990).

Health worker characteristics are also a factor in their acceptability and their ability to influence behavior. Using male promoters in Guatemala, for example, was found to limit their effectiveness as women are reluctant to have a man visiting their homes or to seek help in the homes of men (Bossert and Finerman, 1989). In the Sudan, village midwives who were largely illiterate were used to provide MCH/FP interventions. The personal characteristics of the midwives were partly responsible for the increase in coverage which occurred, particularly in remote hard to reach areas (Ross, 1986). Community based distribution (CBD) pilot projects in Africa have also shown that people with little or no formal education can be effective health workers (Bertrand, 1991). Studies which attempted to determine characteristics associated with successful CBD worker performance however, have been inconclusive, as the characteristics which make for successful performance appear to be program and country specific. Bertrand concluded that the number of children, education and religion were not predictors of high performance (1991).

Health Communication Approaches

The last two decades have seen major strides in the application of communication approaches to changing behavior. Dozens of educational campaigns on a wide variety of topics have attempted to inform, motivate and change the behavior of large audiences in a short period of time, and evaluations of these efforts show that health education programs work across a diverse array of health programs and content areas (Smith, 1989). Field studies and evaluations of these campaigns have also contributed significantly to our growing knowledge about communication strategies and to the design of communication efforts. (Favin, et al., 1986).

Mass media (radio and television) have come to play an increasingly important role in efforts to reach large numbers of people. The most effective campaigns in changing behavior, however, integrate broadcast with print and face to face interpersonal communication, and are based on market research information which help in the selection of the target population, the channels of communication and the messages to be communicated (Academy for Educational Development, 1985). More recently, health education efforts have used entertainment approaches involving media stars in the belief that entertainment both attracts attention and provides a format for demonstrating new, desired behaviors (Coleman and Meyer, Eds., 1990).

Behavioral analyses has also made important contributions to our understanding of how to change behavior by examining specific behaviors as they occur within their actual settings. These studies look at interactions between providers and clients in clinics and field settings, the ways in which information is communicated and the kinds of materials used, and they have contributed to improved materials and more effective communication efforts. A Population Reports overview of family planning counseling amassed substantial evidence that

women who were empathetically and carefully counseled by providers were more likely to accept family planning (Gallen and Letternaier, 1987), and these findings have been substantiated over and over again in settings as diverse as Lebanon (Sayegh and Mosely, 1976), Nigeria (Omu, et al., 1987) and Tunisia (Coeytaux, et al., 1987).

Delivery System Characteristics

Our discussion has shown that many factors beyond the information people receive influence how they will behave, and characteristics of the health delivery system are among the factors that influence health behavior. Studies have shown that changes in health behavior can be induced, sustained and supported by governmental policies, the use of influentials, and service quality and accessibility.

Incentives. Governments and health programs have sometimes used incentives and disincentives to reinforce health messages and bring about behavior change. Examples of rewards include saris or money given for sterilizations in India and Bangladesh and financial and other social benefits for two child families in Singapore (Simmons and Simmons, 1987). In the Cameroon awarding prizes to the cleanest village proved to be an excellent incentive for community preventive actions, and the Social Service Society in Kerrala, India, made the right to participate in decision making about a primary health care fund contingent on a the mother's attendance at health education classes (Favin, et al., 1986). In Kenya, non-monetary incentives (community recognition and lapel pins) proved effective in bringing about higher levels of immunization, clean water supply, family planning use and adequate nutrition among children under five (Institute for International Programs, 1988).

The Use of Influentials. Community, religious leaders and influentials have been engaged in health education efforts in the belief that they must first accept the need for new behaviors before they will be accepted by the community (Favin, et al., 1986). A mass media adaptation of this idea is the use of media stars in communication programs. This approach has been successfully used in a number of national family planning communication efforts in Mexico, Nigeria, and the Philippines (Enter-Educate, 1990).

"Satisfied users" of family planning methods have also been shown to be extremely influential in encouraging both men and women to adopt a family planning method (Piotrow, Meyer). During a 13 month study of a project in Sri Lanka, satisfied users working with public health midwives were found to achieve a higher rate of IUD acceptance than midwives working alone (Bertrand, 1990).

Accessibility and Quality of Services. Often, knowledge of health behaviors cannot be acted upon without access to services, which include the availability of services as well as accessibility as reflected in travel time and costs, and the means to pay for the services. Numerous studies have shown that improved accessibility contributes to increased utilization. One of the major observations and lessons learned of the REACH study of factors affecting acceptability of immunization were that excellent communication alone cannot sustain

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immunization utilization and that efforts to improve demand and increase coverage should address service availability and quality (Favin, 1991). MCH Centers in Burkino Faso integrating their family planning and MCH services and offering these services on a daily basis experienced increased attendance at clinics and an increase in users of family planning methods from 8 to 18 percent in two years. The study also found that integration had a positive effect on the quality and quantity of services provided, on the morale and effectiveness of the health staff and on the satisfaction of clients (Brownlee, 1990). Improved access to health services was found to a major factor accounting for the rapid decline in infant mortality rates in Nicaragua over the last three decades (Sandiford, 1991).

Quality of services can affect client satisfaction and continuation of service use. A study in Swaziland reported that poor quality of care was the major barrier to the use of maternal and child health services (Rutabanizibwa-Ngaiza, 1990). A clinic run by local missionaries was more popular than a government clinic because of quality of care as measured by the behavior and attitudes of the health staff (Parker, Gupta, et.al., 1990). A health education program in Burkina Faso did not convince villagers to adopt sanitary health practices mainly because it relied on poorly trained itinerant health workers who were provided with inadequate educational materials (Competello, 1986).

Information Needs

Additional research and information is needed to help strengthen the design and implementation of health education efforts. This includes more information on what works and what doesn't work, and how the setting (rural, peri-urban, schools, homes, clinics, community settings, etc.) affects program effectiveness. More information is also needed on what works with specific target groups and how cultural and ethnographic factors facilitate and inhibit accepting health messages and taking the appropriate actions. Further examination is also needed of the use of incentives; incentives that have been successfully used, the kinds of incentives that might be used and the circumstances under which they are effective. More information is needed on how the delivery system can support behavior change.

A body of evidence is accumulating that people in developing countries look to the mass media for information and that they change their behavior in a number of ways as a result of what they learn. However, the impact of mass media on behavior is a controversial subject, made even more controversial by the visibility of its messages and the difficulties faced in measuring its impact. To exploit the potential effectiveness of mass media communications, mass media channels may need to provide more specific information about family planning methods and AIDS prevention - both highly sensitive subjects for radio and television. Thus it is important to explore how to persuade policy makers and gatekeepers to allow more specific information about family planning and AIDS in the mass media.

In addition, better techniques for evaluating communication efforts are needed, and better measures and indicators are needed to assess whether they are achieving their desired

outcome and impact. The impact of communications depends to a large extent on its quality, but it is difficult to objectively measure the quality of the communication except by its impact on the audience - a "catch-22" situation. Evaluation techniques therefore need to be built into project activities so that the quality of the communication and the impact of the messages can be monitored from the start.

4. Organizing Services

As African governments give greater attention to primary care, they face options about how services should be organized - whether to implement vertical programs or to integrate primary health care systems, to centralize or decentralize services. They also face questions about the role than can be played by the non governmental and private sectors.

Vertical, Horizontal and Integrated Programs

Approaches to organizing services during the last two decades have emphasized a vertical program approach to service delivery. Vertical programs and limited interventions were seen as effective mechanisms for capturing the attention of governments and donors, and mobilizing resources quickly. The success of the worldwide smallpox eradication campaign provided the model for organizing highly focused vertical programs targeted at specific problems.

The 10 year experience of the CCCD project (Foltz, et al., 1991), reviews of family planning delivery systems (Simmons, Phillips, 1987), and analyses of health system sustainability requirements (Bossert, 1990) have pointed out the advantages, disadvantages and trade-offs that selective interventions and vertical health programs offer when compared to integrated horizontal programs. The arguments and the limited empirical evidence, can be summarized as follows:

> Categorical programs in Africa have contributed to improvements in child health. Services organized as vertical implementing units are more likely to be effective because resources and activities can be focused and mobilized around specific goals. Although vertical programs have been shown to have some success in reducing mortality and morbidity on a small scale, it is not all clear that they can be successful on a larger national scale organized within existing institutional constraints. Vertical programs are also less likely to be sustainable as the qualities that contribute to their effectiveness make them vulnerable to not being sustained. Organized as external units to the health system and supported by donors, they have often lacked an institutional constituency, which has made it harder for them to gain national funding and support when external support ends (Bossert, 1990). Furthermore, the emphasis on vertical programs has tended to fragment a health care system which is already relatively unresponsive (Waldman, et al., 1991)

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Integrated services provide a more efficient use of increasingly scarce national and donor financial resources and are more likely to be sustained than vertical programs. While limited interventions may be appropriate in the early stages of a program, as the program becomes established (with a delivery infrastructure and public demand), the increased costs and decreased program efficiencies involved in maintaining a number of separate vertical programs with built in redundancies are harder to justify. To encourage program sustainability, support systems may need to be widely shared across clustered technical areas (Bossert, 1990). Furthermore, implementation occurs at the periphery and in every clinic or outpost, one individual or a small health team is responsible for all public health programs. Integrated services would allow health care workers to regularly offer more comprehensive services of higher quality and better respond to needs of mothers and children.

An on-going World Bank study on the organization and management of disease control programs points out that the choice is not between exclusive vertical or horizontal programs, but rather how to make use of both modes in the most cost-effective and efficient way (Jamison, D.T., Mosley, W.H., 1990). In the consideration of how health services should be organized, Mills (1983) suggests that there are a number of factors which must be kept in mind; they are the available technology, the effectiveness of alternative organizational patterns, the resources available, the cost-effectiveness of various options, and the organizational capabilities of the implementing organization.

The most effective ways of consolidating support systems across vertical programs and of integrating the vertical programs themselves remain to be determined. Despite much experience with both types of programs, insufficient analyses do not permit clear conclusions. The CCCD program, for example, has provided a test case of 10 years of the selective primary care strategy. A critical comparative analyses of this experience among CCCD countries and among CCCD and non-CCCD countries might provide some insights to illuminate what has become a highly debated topic.

Operational studies and analyses to determine the best ways to integrate support systems and develop relevant strategies will be increasingly important during the next decade.

Centralization/decentralization

In a paper presented at the National Council for International Health, Helfenbein (1990) stated that "it is almost a truism that a decentralized management system is better than a centralized one." Bernhart and Townsend (1990)) have echoed this opinion. Nevertheless, there have been few studies of decentralization of health or family planning services in Africa, and we have little evidence to suggest that decentralization will work well in the particular conditions found in sub-Saharan Africa.

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Decentralized program control has been associated with improved program performance in Thailand (University Research Corporation, 1990) and Indonesia (Warwick, 1985). Indonesia's successful family planning program is generally attributed at least in part to its high level of administrative decentralization providing provincial and district level committees with substantial discretion for developing program procedures and innovative strategies to meet local needs (URC, 1990). Finkle and Ness (1985) observe that a centralized and highly hierarchical type of organizational structure is associated with high performance when the environment is relatively stable and the technology can be routinized. When, on the other hand, the environment is varied and unstable, and the utilization of the technology requires a significant amount of human discretion, a decentralized structure produces the highest performance. Freedman (1987) believes that an explanation for the less successful family planning programs in India, Pakistan and Bangladesh, were that they were standardized early and became rather inflexible programs applied uniformly nationwide.

There is a need to test the applicability of the Asian experiences to Africa because the limited evidence does suggest that decentralization is associated with improved program performance, particularly in varied and heterogenous settings similar to those found in much of Africa.

Roles for the Private Sector

The private sector consists of non-governmental actors who deliver, produce, or distribute health services or products. Private groups include non-governmental organizations (NGOs) as well as for profit entities. The private and non-governmental sectors have been active if not always highly visible partners in providing health care, selling products as well as funding services (Lewis, 1988b).

Health Care Providers. Tsui and Donaldson (1987) have observed that the contributions of private providers (physicians, nurses) operating in the private sector have hardly been assessed. In the family planning program, market traders have been enlisted to sell contraceptives and antimalarials in Nigeria and Ghana, and in the Gambia retail shopkeepers, private pharmacists and private clinicians have been involved in contraceptive distribution. In Imo state Nigeria village health workers serve as health promoters and traditional birth attendants in Ghana have been enlisted to provide child and mother care. Also in Ghana private maternity homes have long been a source of prenatal and delivery care for mothers and private nurse midwives operating maternity homes have been trained to provide family planning to their private patients. (MORE, 1991)

NGOs also operate hospitals and clinics in the developing world, although there has been no systematic documentation or assessment of who they serve, the services they provide or how well they perform (Lewis, 1988b)

Distributors of Health Products. The private sector has also been instrumental in the distribution and sales of family planning and child survival commodities. Contraceptive social

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marketing (CSM) programs, which have been tested and implemented in a number of African countries (Zimbabwe, Ghana, Zaire, Nigeria, Kenya) are increasing the availability and affordability of methods by melding commercial expertise with government support. Host government support of CSM programs has been the most crucial factor. Those that have failed did so because of political and/or regulatory factors (Binnendijk, 1986).

Oral rehydration salts are also being produced and marketed commercially. In Ghana, for example, ORS is being marketed to the public through 3700 private pharmacies and other vendors (USAID, 1990). Vogel (1988) observes that in much of Africa the religious missions and private sectors have been more successful than the public sector in obtaining and distributing drugs.

Funding Services. Mburu (1989) suggests that NGO sector involvement in health should be examined for he observes that they have been funding large and sustained projects, and often operate where few other providers can be found. Mburu notes that in some countries they account for a significant share of health facilities.

Marcia Townsend (1990) observes that collaborative relationships or partnerships among government agencies, private voluntary organizations, and for profit agencies may be a way of sharing the costs of family planning, sustaining or expanding existing services, or widening the range of methods available. Townsend provides a number of examples from the family planning field including PVOs pooling their resources, partnership between PVO and private doctors where doctors sign a contract to provide services at subsidized prices, and government and PVO partnerships. Although most of the examples she cites are from Latin America, they do provide models for such partnerships in Africa.

Information Needs

The consideration of the question of how to organize services has had very little research on which it could rely. Little is known about the most effective ways to integrate vertical programs and consolidate support systems across vertical programs. The separation of many programs and services such as preventive from curative and family planning from MCH in many Ministries of Health represent obstacles to be overcome in bringing about improved service integration. Operational studies and analyses to determine the best ways to integrate vertical programs will be increasingly important during the next decade.

Studies of decentralization of decision making and program control are also needed as we have very little information about various organizational structures and how they will work in Africa. We lack information about the responsibilities that can be decentralized effectively and those which are best fulfilled at the central level. Nor do we know whether decentralization of decision making will improve the quality of decisions and give local officials greater ownership in program implementation. Furthermore, we know little about the infrastructure requirements that will enable decentralized decision making to work -

whether for example a well developed communications and logistics infrastructure is a minimum requirement for successful decentralization.

We need to better understand the models of African institutions which are likely to be successful for implementing health, nutrition, and family planning programs. Are private models more effective and efficient than public models in delivering health services, as is generally assumed? How can one assure that African bureaucracies and private institutions have the infrastructure to sustain health programs? Despite much experience with many types of programs across many African countries, few analyses have emerged which can point to lessons learned about implementation and about the institutions in which programs have been successfully implemented.

We also lack information on how to maximize a partnership between the public, non profit and private sectors which builds on the strengths of each; where public models are more effective and when private models should be employed? Furthermore, many partnerships already exist, yet we know little about them. Lessons learned need to be compiled and analyzed to provide guidance to the very likely expansion of public and private partnerships in providing health services in the decades to come.

5. Health Financing

Adequate financing is a major constraint to implementing health programs in Africa and costs analyses and models of health financing have received considerable attention in recent years. R&D projects (REACH and Health Financing and Sustainability), A.I.D. missions, the UNICEF Bamako initiative and efforts by the European community and GTZ are all supporting health financing efforts examining the most appropriate means of financing health services in Africa.

Governments in sub-Saharan Africa spend on the average about 3 percent of per capita annual expenditures on health in contrast to the recommendation by the World Health Organization that developing countries devote at least 10 percent of their budgets to health. Furthermore, worsening economic conditions in most of Africa are creating severe limitations on public resources and are contributing to actual reductions in spending for health services. (The World Bank, 1991). Confronted with serious shortfalls in budgetary allocations, ministries of health are seeking alternative approaches for financing services with the expectation that new financing strategies, or changes from one strategy to another will increase the pool of resources devoted to health.

Financing strategies which offer promise include: 1) re-allocating public funds between sectors and from curative to primary health care; 2) finding alternatives means for financing health services through the private sector; and 3) finding ways of increasing the total amount of resources available to health through user charges and other revenue generation schemes.

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Allocations for Health

How resources are allocated shapes a country's health system as such decisions strongly determine who receives care and what kind. Typically LDC governments allocate most of their health resources to hospitals and specialty care leaving the major support for primary heath care to donors. Allocations are also often highly skewed in favor of urban populations. In both Ghana and Cote d'Ivoire, for example, expenditures in the urban areas represented between 80-90 percent of total public health expenditures even though less than 45 percent of the total population resided in urban areas (Vogel, 1988). Per capita health expenditures in the C.A.R. were found to be seven times greater in the capital than in the rest of the country (Makinen and McInnes, 1991).

Knowing how a ministry of health is allocating and spending its resources can provide the means for better decision making about health priorities, and knowing the impact of these allocations is crucial to planning for the efficient use of resources. Nevertheless, studies of national health expenditures have been quite limited, particularly in Africa. Studies conducted include one in Burundi which examined 1986 health care expenditures and estimated that the expenditures required to deliver the same model of PHC services in 1987 would have to be approximately 10 percent higher (Rosenberg, 1987). Another study in the Gambia identified past and current expenditures, shortfalls in recurrent spending and future donor contributions as part of a national health project to restructure and strengthen the entire health system (Resources for Child Health Project, 1986). An analysis of resources used to provide preventive and primary health care at MOH facilities in Kenya found that MOH facilities do not operate at full capacity because of a lack of staff, drugs, supplies (Forgy, et al., 1990).

A joint Pritech/Reach survey of health financing was used to provide the government of Morocco with information regarding resource allocation and highlight weaknesses and problems (Lewis, 1988). The effort pointed up the value of having information about how resources are allocated and what they produce. An analysis of health systems and financing in the Arequipa region of Peru provided recommendations for ways in which the regional government can take a more active leadership role in health policy formulation, more appropriately generate revenue within government facilities and more appropriately allocate public resources to the region's population (Coburn and Bitran, et al., 1991).

Two AID-supported studies, one for Columbia (Barnum, et al., 1980) and the other for Indonesia (Grosse, et al., 1979) have examined the sensitivity of allocation decisions to health status, demonstrating the value of understanding the effectiveness of different interventions and their costs in designing programs. Some interventions were shown to be more effective than others in reducing morbidity and mortality, and some of the least effective were noted to be costly.

Most of the analyses of health allocation have been undertaken with specific purposes in mind and the data generated have been country and program specific. No information on

the use of these analyses and studies is provided, and we cannot tell whether they contributed to decisions about resource allocations, and whether those decisions helped to rationalize and improve health services. Recognizing that no global formula for success exists, and that allocation approaches that work in one country may not work in another, it is important that we understand better the conditions for success of alternative strategies in different country circumstances.

Private Sector and Community Financing

Since public sector programs appear increasingly unlikely to be able to meet all of the continent's preventive and curative health care needs, analyses of possible roles for the private sector will take on much greater importance.

Little is known about the private sector in Africa - its role, size or clientele and collaboration between public and private sectors is infrequent beyond the pharmaceutical area. An analysis of the private sector in Sudan (Bekele, 1985) found an unexpectedly large private sector with consumers of private health care coming from a wide spectrum of classes. While the study only outlined the size and nature of the private health care sector, it suggested that nongovernmental health services could play a significant role in the Sudan. A review of the private sector in eight African countries highlighted the lack of hard information about the private sector, the kinds of care people use and their ability and willingness to pay (JDM Consulting Group, 1984).

Community financing studies carried out by the PRICOR project found that many governments have policies that inhibit community financing or user payments, and that many others had political norms and expectations which functioned as constraints - such as the belief that health should be accessible to all, or that the country is too poor for community financing to be practical. Most studies, however demonstrated the feasibility of community financing efforts (Russell and Reynolds, 1985).

Private sector groups have assumed a useful role in contributing to the availability of basic affordable drugs, the production of oral rehydration salts, and the promotion, distribution and marketing - at subsidized costs - of contraceptives. Employers, labor unions, and cooperatives are important sources of health financing in many countries (Molzan, et al., 1987).

Employer support for family planning has been explored by two projects funded by the A.I.D. Office of Population. The TIPPS project (Technical Information on Population in the Private Sector) has demonstrated that employers can be persuaded to offer health benefits to their employees when benefits to the employer outweigh the costs. The Milpo Mining Company in Peru, for example, decided to offer family planning and child survival services when they saw what inappropriate prescription practices were costing. (U. S. Agency for International Development, 1990). The Enterprise Program also experimented with employment based family planning programs in Zimbabwe and Zambia (Moore, 1991). Based

on his analysis of 19 sub-projects, Moore concluded that, "under the right conditions, the private sector is willing and able to play a significant role in providing and paying for family planning services on a sustainable basis" (1991). Examples of employer support for primary health care in Africa includes the Firestone Company in Liberia which provided services at their rubber plantations (Molzan, et al., 1987).

More analysis of private sector opportunities in Africa could contribute to making that observation come true for both family planning and other health services.

User Charges

The mobilization of additional resources for the health sector is a key component of a long term child survival strategy. Although many options exist for generating revenues, most attention appears to be focused on the implementation of user fees. Paying for services is not a new phenomenon in Africa, as most individuals seeking care from traditional healers are required to pay in cash or in kind. This acceptance of service charges is borne out by a considerable body of research which has shown that user fees are widespread and that individuals are willing to pay for health services (Makinen and McInnes, 1991; Russell, 1985). In some rural areas in Mali for example, families have spent up to 5 percent of their income on drug purchases and in Malawi up to 10 percent of family income has been spent on fees for traditional providers (The World Bank, 1989). Data from a World Bank study of fifteen African countries found that expenditures by private individuals accounted for about 36 percent of total health expenditures (de Ferranti, 1985), and other studies in Mali and C.A.R. have suggested that private expenditures may be equal to or greater than government expenditures on health. Several studies in Mali, for example, led Diarra and others to conclude that private spending for drugs, fees, transport, etc. represented 74 percent of total expenditures for health services (Diarra and Coulibaly, 1990).

Significant resources are being generated by user charges. Bitran, et al. (1986), in a study of seven semi autonomous health zones in Zaire found that on the average, they recovered almost 80 percent of operating expenses through user fees. Health centers in Benin and Guinea, operating along the lines of the Bamako initiative, recovered between 40 and 50 percent of operating costs. (Knippenberg, et al., 1990). Other examples of cost recovery include urban and rural projects in Senegal (Unger, et al., 1990), mission operated facilities in Rwanda (Shepard, et al., 1986) and pilot projects in Niger (Makinen and McInnes, 1991). A survey of cost recovery mechanisms for EPI noted that cost recovery or alternative financing mechanisms in both the public and private sectors have been tried in 79 countries worldwide, and survey findings indicate that fees for immunization services or cards are the most prevalent method for cost recovery for EPI in Africa (Percy, et al., 1991). The evidence suggests, however, that fees generally do not cover all costs even all recurrent costs and fees should be seen as only one component of a financing strategy.

Effect on Utilization. User fees have been shown to affect the utilization of services. Following a nationwide increase in user fees in Swaziland, average attendance decreased at

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government facilities by more than 30 percent and increased at mission facilities by 10 percent leading to an overall decline of approximately 17 percent. A more disturbing finding was that patient visits related to immunizations or for treatment of dehydration showed average declines ranging between 16 and 24 percent (Yoder, 1989). A large part of the decline in use (30%) was among patients who previously had paid the least; part of the decline was caused by fewer multiple visits.

Utilization is also affected by price elasticity, however the tolerances for each service or product are different. Often small charges can be instituted without effecting demand or utilization. A study in Thailand demonstrated, for example, that small charges can be instituted for contraceptives without causing a decline in demand (University Research Corporation, 1990b).

Implications for Equity. Some of the opposition to a fee system grows out of concern for its effect on the poor's use of services. In most of Africa access to health services is highly skewed in favor of relatively better-off urban populations. Significant socio-economic differences are also found in patterns of health services utilization particularly for preventive services. Results from the Demographic and Health Surveys indicate that maternal and child health services are used least by the uneducated and rural populations, even when the services are provided without charge. Large differences in fact were found in the use of health services between the disadvantaged and privileged groups in all of the African, Asia and Latin American countries surveyed by DHS, except for Sri Lanka (Boerma, et al., 1990).

Relationship to Quality. Preliminary evidence suggests that quality of services, and the availability of drugs and medical supplies is improved by user payments (Bitran, et al., 1986; Makinen and McInnes, 1991). A great deal of evidence has also now accumulated that people are willing to pay for services which are perceived to be high quality, and this relationship between quality and willingness to pay may also be true for preventive services and access to water (Leighton, 1991; Molzan, et al., 1987).

Information Needs

There are perhaps more questions about health financing policies, strategies and procedures than there are answers. First of all, there is little accumulated experience to guide the process of policy reform in the allocation of health resources, and that process is likely to be as much political as it is technical. Thus a key question to be addressed is, what technical information can help leverage the political process and stimulate changes in policies constraining the appropriate application of user fees and community financing?

Although it has been well established that private individuals are willing to pay for health services and that considerable resources can be generated through user fees, there are still many unresolved questions relating to the types of services that should be charged (preventive as well as curative), establishing the price and system for charging and collecting fees, and determining who should control the revenues generated. Better measurement of

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the extent to which user charges act as a barrier to the use of services is needed, especially for target groups such as women and children. The effectiveness of means testing should be evaluated to determine what works well and what does not.

The evidence is weak on the equity effects of user charges. Although informal means testing to allow poor populations to use services without charge are widespread and reported to work well, these systems have not been systematically evaluated, nor the factors related to success identified.

There are also many concerns related to how cost recovery schemes effect service quality, how they impact on the poor and affect the goal of equity. Further research is needed on alternative cost recovery schemes. The most promising include: waiver systems that ensure utilization of immunization services by the most needy, universal health insurance and contract services where females prepay for immunization services and are reimbursed after the schedule is completed.

Although there is some evidence that suggests that financial autonomy for health facilities tends to promote efficiency, more confirmation of this is needed. The relationship between revenues and quality at health care facilities also needs further examination including how to strengthen the link between fee collection and improvements in quality, and how to address regions which differ in their abilities to successfully implement cost recovery programs. We also need to understand better the relationship between perceived quality of health services and a person's willingness to pay for the service.

Studies are also needed on whether cost recovery programs should first be implemented in hospitals or ambulatory care facilities, whether charges should be instituted for preventive as well as curative services, or in the case of contraceptives whether charges should be instituted for all methods or only certain ones (Ross and Isaacs, 1988).

6. Assessing Health Services

Assessing the progress of child survival programs is a problematic undertaking in the absence of data from which to calculate the common indices of health, morbidity or mortality in countries where censuses are infrequent and unreliable, and where service statistics and vital registration systems are incomplete, undeveloped and unreliable (Lucas, 1989). The CCCD project experience suggests that measuring project impact is neither easy nor inexpensive (Foltz, et al., 1991). The CCCD project provided substantial support to the development of health data sources and systems, but also recognized that considerable developmental work and research remains even after 10 years of CCCD project implementation (Foltz, et.al., 1991).

In addition to efforts focused on national data collection and reporting systems, there have also been numerous efforts focused on developing systems and measures for assessing program quality and costs.

Data Sources

African governments have for the most part relied on two sources of data: routine data from health information systems and special surveys. Health information systems typically provide reports from health facilities on services and activities, utilization and resources. Many countries also undertake surveys to address their needs for basic health and demographic information in the absence of reliable national data sources. Nutrition surveys have been used frequently particularly in the Sahelian countries to assess the effects of drought. The A.I.D. supported Demographic and Health Surveys (DHS) has been carried out, at least once in more than a dozen countries and more are planned in the next couple of years. Also frequently used by many African countries are immunization coverage surveys and Knowledge, Attitudes and Practices (KAP) surveys. The CCCD project also sought to implement systems for collecting data rapidly on specific target activities using sentinel site reporting (Foltz, et al., 1991).

Information from these data sources have been used to identify health needs, assess the status of progress using key indicators such as infant mortality rates, vaccination coverage rates, contraceptive use rate, and as baseline for tracking the effect of programs being implemented.

Information Systems

Accurate data on health conditions are necessary for decision making about resources, programs and priorities. The Presidential mission to Africa (U.S. DHHS, 1991) observed that health information gaps existed in all the countries they visited, and that often rudimentary systems for estimating population size, registration of vital statistics and tracking the spread of disease were lacking. A diagnosis of management information systems for maternal and child health and family planning in 40 countries worldwide, including 27 African countries, found that many programs do not produce basic input and output data. Where such information is produced, it was infrequently brought to bear on management decision making, and the use that occurred was most often restricted to the central level (Keller, 1991).

Foltz (1991) and Savosnick (1991) have observed that the sustainability of information systems depends on its perceived utility by host nationals. Users need to understand how the system works, the data it collects, how the data can be used, and most importantly that their problems will be addressed by the information system. Waldman (1991) identifies the need to place more emphasis on seeing that the information is understood and used by program managers and decision makers. His views were shared by participants in an international

workshop on management information systems in primary health care sponsored by the Aga Khan Foundation (Wilson, et al.,1988).

Assessing Quality of Services

Quality assessments have taken a number of different forms. For the PHC program, the PRICOR project has developed a systems assessment model which examines through observation the performance of tasks associated with quality services. The observations using a structured checklist yield a detailed quality assurance profile of the process of service delivery which can also be used to provide feedback to health workers and managers participating in the assessment. The project examined staff performance in service delivery programs in 12 countries and appears to be the first large-scale systematic effort to map quality of care in child survival programs (Heiby, 1990).

Bruce and Jain (1990) have developed a framework which defines the elements of quality care for the family planning program. Their working definition of quality of services includes choice of contraceptive method, information given to clients, interpersonal relations between client and provider, program mechanisms to encourage continuity, appropriate constellation of services. Unlike the PRICOR approach, however, their model has not yet been translated into a tool for measuring program quality, though it does lay out the elements that would need to be included in such a system of measurement.

Measuring Costs

With the declines in government and donor resources, the role of cost analysis in PHC programs has grown in importance and analyses of cost probably represent the most frequently studied aspect of PHC programs. The research encompasses studies of program costs such as the costs of immunization (Brenzel, 1991), diarrheal control (Bennett), family planning services (Simmons, 1987); studies examining the relative effectiveness of different interventions in relationship to cost such as in malaria treatments (Helitzer-Allen, et al., 1989; Heymann, et al., 1988), treatment for diarrhea (McFarland, 1989) and for immunization (Leighton, 1991); and studies examining factors that will contribute to the sustainability of health interventions (Leighton, 1991; Bossert, 1990; Vogel, 1988; Brenzel, 1987).

Cost studies, however, provide a snapshot at one point in time of service delivery costs, and do not address the kinds of operational information that program managers need. Cost- effectiveness studies have all virtually been limited to one intervention or disease category, and thus provide limited utility to answering the question of how resources should be allocated across interventions or diseases (McFarland, 1989).

Information Needs

There is no doubt that there are enormous needs in African countries for support and assistance in the design and implementation of improved data collection and reporting

systems. The HHRAA project can contribute to this developmental effort by reviewing health information systems for child survival, following the example of the survey that was done for MGH and FP (Keller, 1991). Combining these analyses would provide a comprehensive picture of primary health care information systems and needs across Africa, and provide direction to designing information systems which could prove useful to managers. Ways of routinely collecting cost information also needs to be considered.

More attention also needs to be directed to the development of impact indicators which can serve both host country management needs and donors needs for information on program performance and impact. Keller (1991) observed that impact data, was frequently used by local decision makers to guide decision making regarding questions of broad program design, such as the degree of rural versus urban emphasis. HHRAA could contribute to this effort by examining the advantages, administrative and cost requirements and efficacy of alternative methods of deriving impact indicators for morbidity, and mortality.

Better measures of service quality are also needed. Analyses of the service provision process could also contribute to the development of minimum service standards and provide supervisors with tools to monitor and help improve worker performance.

Brenzel (1991) has observed that the results of cost-effectiveness studies have been used sparingly at the country level for policy and program management decisions. We need to understand better the reasons why such an extensive and important body of research has been used so little, and the HHRAA project could contribute to conducting such a review.

C. SUMMARY OF RESEARCH GAPS IN HEALTH

This review of health care research has indicated that an extensive body of literature exists on a wide range of research issues, but that the research suffers from two major shortcomings: it tends to be situation (country, program, disease) specific and it frequently fails to provide guidance to policy and program decision makers on the action implications of the research results. Thus we have a substantial body of information which has yet to be translated into more effective health programs. The research and analytic activities of the HHRAA project thus have a unique niche to fill and that is to conduct research and synthesize existing information to help improve health strategies, systems and services.

The following are some of the key areas in which knowledge gaps exist for improved policies and programs:

Delivery of health interventions

- strategies for increasing vaccination coverage
- improving case management procedures and protocols
- combining vaccination efforts with case management approaches

- technical improvements for malaria treatments
- expanded vaccine protection
- feasibility of incorporating AIDS into integrated child survival programs

Support systems

- upgrading educational programs for health personnel
- improved training systems including pre-service and in-service training for health workers
- systems for training personnel in integrated services
- improved supervisor training and support
- better materials to support health worker performance
- integrated logistics systems

Changing behavior

- effective communication methods for overcoming cultural and attitudinal barriers to behavior change
- more effective communication between health workers and clients
- the implementation of government policies which encourage, provide incentives for and sustain behavior changes
- the design of health programs that support desired health behaviors
- better techniques for evaluating the impact of communcation efforts

Organizing services

- operational studies to determine the best ways of integrating support systems
- pilot tests of efficacy of decentralized decision making for health services
- assessments of contributions and cost effectiveness of private sector providers
- better descriptions of health care services provided by NGOs; assessment of their contributions to the health sector
- compilation of lessons learned from partnership arrangements for the provision of health services
- strategies for maximizing partnerships between the public, non-profit and for-profit sectors in the provision of health services

Health Financing

- better use of national health expenditure studies
- better understanding of how technical and financial analyses can help shape political decisions about the allocation of resources for health
- strategies for increasing private sector financing of health care
- better information for establishing a system of equitable user charges
- analyses of the relationship between fee systems, service quality and utilization

- better strategies for implementing cost recovery programs

Assessing Services

- the design of more user friendly and more sustainable information systems for primary health care
- better measures of program impact and service quality
- cost effectiveness studies comparing interventions
- increased utilization of cost effectiveness studies in decision making.

D. OVERVIEW OF EDUCATION IN AFRICA

Education in Africa can be looked at either as one of the continent's great success stories or as one of its greatest failures. On the positive side of the ledger, examples abound of countries like Burundi, which in less than a decade and with minimal social disruption oversaw a tripling of its primary school enrollments, or of Zimbabwe which oversaw an even greater expansion of its secondary sector over a similar period. The remarkable quantitative expansion of the education sector has been the most characteristic hallmark of African education in the past twenty years, and the most impressive. Yet more and more, the literature on education in Africa is taking a somber cast, reflecting a rapidly growing concern about the ability of most African countries to maintain the enrollment ratios already achieved and to reverse the degradation in the general indicators of educational quality.

Large numbers of children in Africa are currently not able to attend school for a long enough period to obtain and retain literacy and basic computational skills; a significant percentage never attend school at all. For those who do attend, learning is often hampered by many different factors: a curriculum that to a large degree does not correspond to the necessary life skills of the adult population, schools with substandard physical plants and few instructional resources, a poorly qualified and understaffed teaching cadre. Attempts to achieve universal primary education have failed and recent reports indicate that enrollment rates are on the decline. Average annual enrollment rates grew 6.5 percent in the 1960s and 8.9 percent in the 1970s. However, in the first half of the 1980s the annual growth rate fell to 4.2 percent. In many countries enrollment rates have continued to decline throughout this past decade (Tounkara, 1991; and The World Bank, 1991). The number of school leavers is increasing as fewer students are able to continue through the educational hierarchy and certain groups, such as special needs students and girls, are particularly disadvantaged in competing for the limited number of places in secondary and higher education.

Part of the decline in enrollment and erosion of quality is because of competition between different sectors and ministries for funding from poor governments with few resources. The current economic situation in many African countries has forced governments to cut back expenditures to the education sector. But the cutbacks in education have not always been matched by proportionate cutbacks in other sectors, nor has the burden been

equally borne by all levels within the education sector itself. Therefore, the new financial constraints have often resulted in conflicts between the political realities reflected in central ministry agendas and policies with the education ministries calling for educational reform and improved educational quality.

Other circumstances outside the educational sector have significantly influenced the current decline. High fertility rates have dramatically increased the number of children seeking access to schools while the number of available places has remained static. Health-related issues impact education in various ways including the emotional and financial support that education is given and the general overall physical condition of students attending school. Urban migration has further complicated government attempts to provide equal access to quality education as massive numbers of rural population move into the large cities, often remain unemployed, contribute to the social upheaval there and live impoverished in the urban centers.

Myers (1991) outlines eight reasons that investments in the development of children are essential. All eight highlight the importance of the social rate of return for investments made in people. People create increases in productivity and represent the most important capital a country has. The 1991 World Development report underscores the importance of human capital in sustaining development and the way in which education factors into this development process. The report states that a one year increase of formal schooling augments annual wages by over 10%. Health improves, dissemination and absorption of new information is achieved more easily, privatization is enhanced, the percentage of families using birth control and practicing family planning is increased, infant mortality is reduced--the list is endless (King and Hill, 1991; Lockheed and Verspoor, 1990; and The World Bank, 1991). Education is a key factor in development. But unfortunately, its ability to fulfill this function is increasingly hampered by politics and economic constraints.

The time has clearly come to make the hard decisions about what needs to be done to arrest the general degradation of the educational sector. Yet for all the conventional wisdom and received truth about education in Africa, there are surprising gaps in the available knowledge base on which to make these decisions. This paper outlines seven areas in the educational sector where important knowledge gaps remain. These include 1) equity issues and access patterns, 2) the learning environment and resource scarcity, 3) teacher training and motivation, 4) educational management, 5) educational funding, 6) education and the community and 7) data reliability, validity and utilization. (These are overlapping, inter-related categories treated separately here to permit more focussed analysis of specific issues.)

E. KNOWLEDGE GAPS IN THE EDUCATION SECTOR

1. Patterns of Equity and Access

Historically, formal education in Africa was a privilege extended to very few children, with a clear differentiation between those with access and those without. To a large degree

this pattern continues to hold, particularly for four disadvantaged groups: rural, female, poor and special needs students.

Today fewer than 50 percent of children in rural areas and as few as 10 percent in some countries attend school for more than four years (The World Bank, 1990). Although there are many reasons children are not in school, emerging patterns suggesting why they are not there fall into two broad categories: resource constraints and system objectives. The first category includes such factors as the inadequate number of schools and the resulting distance from school, the lack of funds to pay for both the direct and indirect costs of schooling, and the opportunity cost for families of students. The second category includes those system-wide structures or belief patterns which, either by design or default serve to reinforce the selection role of schools: high repetition rates, selective examinations, etc. These are often intentionally used to progressively exclude students from the system.

Mayoya (1991) writes that indirect school costs contribute to educational inequality. Her work in Burundi demonstrates how expenses for items such as uniforms, school supplies, bedding material, and transportation discriminate against poorer, rural students. Moskowitz et al (1991) found that insufficient funds and opportunity costs from smuggling, rice growing and fishing reduced enrollment in Uganda. In her work in Rwanda and Zaire, VanBelle-Prouty (1991) also found that both opportunity cost and school costs negatively influenced school enrollment and attendance particularly for girls. Stromquist's (1989) review of research corroborated the work of Boserup (1970) which found that distance from school significantly influenced who went and for how long and noted that a direct correlation exists between enrollment and absenteeism rates and distance from school. Clearly, getting into school is difficult; staying there is even more so. But focusing on who gets in, who stays in, and who finishes up doesn't tell the whole story since concentrating on access patterns can be misleading.

Disparities between urban and rural schools can be remarkable not only for the differences in the physical plants but also for the amount of textbooks and instructional materials that are available and the quality of teaching found in the schools. Although children in poorer, rural areas may be **in** school, the comparative value of their education is dramatically reduced because of the physical surroundings and inequitable distribution of resources.

In the test-driven systems that many of the African countries have, the children from the more disadvantaged rural schools are not as competitive on the state-administered exit or entrance exams that control access to secondary education. Furthermore, children in rural areas often must travel considerable distances to gain access to schools compromising the amount of time that they can commit to their studies.

Language of instruction is another area that raises concerns about equitable educational opportunities. Efforts have been made in recent years to Africanize the curriculum and this has been particularly noticeable in the use of mother tongues or first

languages in the early primary grades with a transition to a "national" language--generally French or English--in the upper primary grades. While this policy is pedagogically sound, in that it allows the children to build on a linguistic foundation started in the home, it raises concerns about equity of continued educational opportunity because not all students (particularly those in urban areas) begin their instruction in a mother tongue. The problem with first language instruction is that children taught in a local language are disadvantaged for further educational opportunities because of the test-driven nature of the systems (exams are administered in the national languages) and the instructional time utilized to develop literacy skills in the first language.

Eisemon et al (1989, 1990a and 1991) and Schwille et al (1991) found that students tested in the mother tongue of Kurundi in Burundi did better than those tested in the national language of French especially on science and agricultural portions of the exam. More importantly however, they observed that the impact of language of instruction was most noticeable in the higher ability students in the sample and that testing in the mother tongue did not increase the performance of the lower ability student. Their overall conclusion is that the introduction of French at a lower stage of the primary cycle would be advantageous after basic literacy in the first language was established in the first few years of primary education.

Their conclusion is echoed in The World Bank studies conducted not only in Africa but other developing areas as well (Farrell and Heyneman, 1989 and The World Bank, 1988 and 1990a). This research suggests that 1) second language literacy and oral fluency is most successful when there is a strong instructional foundation in the first language; 2) second language conversational skills can be introduced before fluency is established when tied into academic learning; and 3) academic skills learned in the first language are easily transferred to the second language (The World Bank, 1988).

The education of girls is another area of equity concern. Although the differential between participation rates of girls and boys (particularly at the primary level) have narrowed, enrollment figures for boys are higher than for girls as are repetition and dropout rates. The gap in enrollment rates increases as one moves through the educational hierarchy arriving at a critical point at the tertiary level. Abrahia et al (1991), Eshiwani (1985, 1988), Kinyanjui (1987), Smock (1977, 1982), and Stamp (1989) demonstrate the significantly lower participation rates for girls in science, math and technological disciplines--all high status areas of study that lead to high status professions and jobs.

However, once in the classroom, patterns of interaction and teacher expectations can have a significant impact on what is learned and who succeeds. This is particularly true in the case of girls. Adams and Kruppenback (1986), Biraimah (1987), Date-Bah (1986), Kerner (1986) and VanBelle-Prouty (1991) found that girls had less opportunity to contribute and ask questions. They were given less direct teacher instructional time and in some cases endured teacher abuse and recrimination. The combined influences of lowered expectations for girls to learn and time conflicts because of classroom responsibilities and obligations (in

addition to time conflicts from the home) undermined the educational efforts and attainments of girls.

Information needs

The policy analysis which has been generated both from within and from outside the African continent is generally much more concerned about describing attributes of the "model school" than in recognizing the implications of the physical and human resource constraints which the education sector is facing. There is also a general failure to pay attention to issues affecting implementation, meaning that little is known about the means by which change occurs at the classroom level. Clearly, in order to respond to discriminatory access patterns and inequitable treatment in schools, a good deal more information is needed in these areas.

Optimal grade/class grouping patterns. The two most common alternatives to the single-grade classroom are double shift and multi-grade arrangements. Double shifts are generally used in urban areas to relieve overcrowding, although in Burundi they are the standard throughout the country, with each teacher teaching two groups of students per day (Schwille et al, 1990. The little existing research on double shifts (Jarousse and Mingat, 1990; Mingat et al, 1986) shows little negative impact on learning, but these studies are characterized by a lack of methodological rigor and may depend in part on unreliable baseline data. Virtually nothing has been written about the impact on aggregate learning levels, or about the political constraints which the implementation of such a policy could be expected to encounter.

The literature on multi-grade arrangements is also very sparse and generally inconclusive. Most of it is specifically linked to increasing efficiency in the use of teachers in underpopulated rural areas. Jarousse and Mingat (1990), however, argue strongly that the multi-grade arrangement is the most pedagogically sound and should become the standard everywhere. Wheeler's et al (1989) study supports this and suggests that teaching in multi-grade classrooms forces a teacher to play the role of tutor instead of lecturer. There is a great need for further study in this area under controlled conditions; in the face of a generally reported local sense that multi-grade teaching is inherently inferior, research should also analyze attitudinal barriers to successful implementation.

Another more radical approach is a policy implemented in Mali, where in some rural areas students are admitted to school only in alternate years. In other words, children enter school in two-year age spans--children who are 5 and 6 enter first grade together and move on to second grade en masse under the instruction of the same teacher as the previous year. Clearly, a major problem with this approach is the difficulty that arises for children who fail the year and must wait two years before they can repeat the school year. Mali has also introduced the use of a "star-satellite" strategy in which large, better equipped schools are created in centrally located villages and satellite villages send their children to the main school. In this way, classloads are at a more economically feasible level while scarce resources are pooled. This strategy appears to be working efficiently but problems do exist.

the most serious being the long distances that some children are forced to commute each day (Tounkara, 1991). (Guinea, and perhaps other countries as well, has been the site of even more draconian policies implemented on a de facto basis where children aged 5 through 10 enter Grade 1 together and proceed through the entire elementary cycle as a group, with younger children and those who fail required to wait six years for a new cycle to begin.)

Adherence to low-cost, participative modes of construction. While most multi-lateral organizations have recently adopted low-cost construction techniques based on community participation, many bilateral arrangements continue to favor turnkey methods with high unit costs. The issue here is not to find out whether more expensive structures are cost-effective (the literature is unanimous that they are not) but to determine how to address the political barriers and self-interest which continues to result in a proliferation of ill-designed, wasteful construction projects.

Increased student-teacher ratios. A good many studies show that increasing student-teacher ratios is generally cost-effective (Jarousse and Mingat, 1990; Mingat et al, 1986, for example), although this may be partially due to the prevalence of the teacher-as-lecturer model of teaching. A more important opportunity may be found in the upper grades of the primary cycle, where the continuous selection practices often result in much lower student-teacher ratios than in the lower grades. Improvement here will mean addressing the causes of high repetition rates in many countries and can be expected to have a disproportionately positive impact on female student populations, since these constitute the bulk of the attrition in many systems (as in Togo, for instance, where girls represent 43% of initial school enrollment but only 12% of secondary school graduates).

Wheeler et al (1989) in their USAID-funded BRIDGES work write that the Reduced Instructional Time Project (RIT) which used multi-graded schools and high student/teacher ratios (up to 70:1) have been successfully implemented in Thailand. One key to the success of the program was the development of instructional materials that responded to the unique learning situation of multi-grades and large student/teacher ratios. One of the more unique aspects of the project was the research to find ways to reduce the amount of time-on-task that students needed to develop mastery in cognitive skills. In this model the teacher is not only an instructor but a manager of time, materials and activities. Use of RIT significantly lowered per-pupil costs but was effective in equalizing the achievement differential between urban and rural students as well. Because of the level of success that was observed in Thailand, how easily and effectively their results could be replicated in an African context merits consideration and further study.

Even modest increases in the student-teacher ratio significantly lowers costs. Although the most logical way to increase pupil-teacher ratio is to increase the average class size, increasing the teaching load particularly in the upper primary and secondary cycle can produce similar results. Again, more research attention to implementation is needed, including the pedagogical and political feasibility of creating multi-disciplinary teachers,

providing for heavier teaching loads, providing for more flexibility between upper and lower secondary cycles (many countries restrict teachers to specific grades), etc.

Teaching methods specific to large group settings. There is a modest body of research dealing with more effective methods of teaching large groups, including such techniques as cross-age peer tutoring. Since individual classrooms with large groups of students will continue to be a feature of the African urban setting into the foreseeable future in many countries, much more study is needed in these arena to determine optimal approaches, physical facilities, special materials and so on. A follow-up is also needed to explore the counter-intuitive findings of studies conducted in Pakistan which report higher achievement levels for students in classrooms with a higher student-teacher ratio than in classrooms with average to low numbers of students (Rugh, Malik, and Farooq, 1991).

Equalizing access to learning within the classroom. In many cases, even where disadvantaged groups gain access to the classroom, they continue to face biases and discriminatory practices which deny them access to vital learning opportunities. This is often the experience of female students.

In order to address discriminatory practices that exist in schools, there must both be an understanding of the problem and a commitment to change. Many discriminatory practices involve cultural and sociological issues that are difficult to identify and are resistant to change. Many may be country-specific. Options needing further study include increasing the number of women teachers, reducing the distance students must travel to school. and providing for the privacy (separate latrines) and safety of girls and women teachers (Simmons and Alexander, 1980).

Because of patrilineal and patrilocal customs, when parents must choose between sending a boy or girl, commonly the boy is sent at the expense of the girl because of the loss of educational investment when a girl marries. Diarra (1991) writes that this combined with the parents' general dissatisfaction over the education that girls receive plays a key role in their underparticipation in the Central African Republic. In their review of the literature of education of girls, Floro and Wolf (1990) found numerous studies that reported socio-cultural reasons why girls did not attend school. Research has repeatedly demonstrated that the social rate of return of a primary education for girls is higher than that for boys consequently a concerted effort needs to be made to "push" school enrollments for girls. When financial allocations permit, reduction of the indirect costs of schooling can be lowered for girls counterbalancing the opportunity cost of educating girls that can keep them home. More ethnographic research needs to be conducted not only to better understand the role that culture and social norms play in the education of girls, but also to find ways to **work with culture** to get them enrolled in and attending school.

A great deal more information is needed about how family background and home environment influences student learning. Research from developed countries has demonstrated the strong links between home and school but little work has been done in

developing countries on this question (see Lockheed, Fuller and Nyirongo, 1988). Although this kind of research will be difficult to conduct, longitudinal studies in this area will contribute a great deal to the understanding of what home and family factors influence student learning in Africa.

Reducing bias in the curriculum and textbooks is another promising avenue to explore, although results may be much more difficult to demonstrate empirically. Textbooks (particularly those in developing countries) are often gender-biased, reinforce negative stereotypes about the disabled and undermine efforts to achieve ethnic equity in the classroom and community. Ethnographic research approaches may be the most effective in determining impact in this area.

Distance learning. Distance learning, correspondence programs and the use of radio represent another way to increase access, particularly at the secondary level. In essence there are three types of distance learning. The first kind is called enrichment and quality enhancement and is used in conjunction with classroom instruction. This type of distance learning addresses the qualitative issue of education but contributes little to increasing access. The second kind, self-study schools, are supervised by some adult or community leader while content instruction is provided through radio or television broadcasts. Finally, the third form of distance learning, extramural programs place heavy reliance on printed materials with limited use of broadcast media services. Although, the latter two types of distance learning can substantially increase potential access at relatively low costs particularly once the basic program has been designed, documentation on student achievement is limited particularly on how student outcome is influenced by student motivation.

Distance learning needs to be explored further because of the attractive low-cost options it provides low-income countries. Distance learning also provides a medium for literacy maintenance programs another area of great need in Africa. (See Semali, 1991, for a discussion of the media in postliteracy in Tanzania.) Close observation of programs in Zambia, Malawi and Zimbabwe should provide data that can be useful when making policy decisions about distance learning.

Language of instruction. Because of the political overtones that are commonly associated with language of instruction, this is a particularly difficult equity issue to address. It is imperative that study be given in this area to support policy decisions that must be made. This issue is particularly important in countries where more than one local language is used.

Special needs students. A conservative estimate is that over 15% of children in Africa are disabled--a percentage relatively proportionate to the number of people living in all the urban centers in Sub-Sahara Africa (Ross, 1988; Skuy and Partington, 1990). Providing special needs students with educational opportunity is generally not an area of concern and is a devalued problem in Africa (Barnartt, 1991; Ross, 1988). Initially providing educational access to children who were not able to function in the mainstream educational environment was an economic impossibility in African countries. It has only been very

recently that any attempt has been made to address this need (Csapo, 1987). Unfortunately, despite increasing awareness that **all** children have the right to go to school, the economic reality is that very few countries will commit monies to the education of special needs students. Furthermore, there is little encouragement or incentive from development and donor agencies to do so.

Currently, the disabled population in most African countries is an economic drain on the community. They are among the most disadvantaged groups living in deplorable conditions in abject poverty. Often the disabled are rejected by their families and are reduced to begging in order to survive. This situation can be reversed. The disabled community can become a vital link to economic development while integrating them into society. However, they need an education to provide this link. The key issue here is that long term benefits from investments in this area (both in research to determine the most effective way to educate special needs children and then the investments made to expand their access to schooling) are synergistic.

The most pressing need for research is how mainstreaming can be implemented in the African context so that existing services are being used effectively to serve this special population. Although some study has been given to this issue not enough information has been gathered to see how this approach can be implemented. Studies also need to be conducted to determine which kinds of programs provide the most cost-effective intervention for the disabled community and ways to establish and enhance community involvement (particularly of families of special needs children). This research should include ways to see how privatization of special schooling could be established and what the linkage between the disabled community and prospective employers of skilled labor that they could provide would be. Close attention should be given to countries that have begun to address this issue such as Botswana, Zimbabwe and Zambia.

2. The Learning Environment and Resource Scarcity

Although there is a wide variation in the types and quality of classrooms that children in Africa sit in day after day, term after term, year after year, one thing is certain--most are substandard. Urwick and Junaidu (1991) describe schools in Nigeria that had a severe lack of instructional materials, broken roofs, doors and windows, disintegrating structures, no furniture and no sanitary facilities. Moskowitz et al (1991) describe classrooms in Uganda that had no roofs, decaying structures, no furniture, no textbooks, no instructional materials, no water, no toilets and no teachers. VanBelle-Prouty (1991) visited schools while collecting data for her research in Rwanda that had no roofs, no materials, and no textbooks.

The literature about the classroom environment is generally consistent across Africa, with few geographic or regional variations. Schools have few resources, children lack the most basic supplies, sanitary facilities and water are often inadequate, the quality of teaching is often below expected norms, the exchange of information is teacher directed and a great deal of instructional time is allocated to the learning of material that has little relevancy in

the given context. Although there is no unanimity regarding the basic needs of classrooms in Africa (Haron, 1989; Heyneman and Jamison, 1980; Jamison, Searle, Galda, and Heyneman, 1981; Mwamwenda and Mwamwenda, 1987; and Urwick and Junaidu, 1991) and about the relationship between physical facilities and learning outcomes in particular, there is general agreement that the physical surroundings in which much schooling occurs is not conducive to learning and presents real threats to student and teacher health.

Financial inputs in Africa (as in many developing countries) have been concentrated primarily on school buildings and teachers. Research has shown, however, that the principal areas in which investments should be made are the curriculum, instructional materials, instructional time, and classroom teaching (The World Bank, 1988 and 1990a). Each of these is discussed in turn below.

Curriculum. Many of the education systems in Africa are test-driven, with a persistent pattern of rote learning. This has greatly influenced the scope and sequence of the official, or intended, curriculum as well as the implemented curriculum since there is a natural tendency to teach to the exit or entrance exams. These are often developed for purposes of selectivity and may have extremely low content validity. Many are fact laden and demand little higher order skills or creative problem solving ability.

The specialized content introduced in many systems during the early years of the secondary cycle bears little relationship to the needs of most students, particularly for those who leave school without completing the cycle and receive a diploma enabling them to enter the specialized profession for which they were trained. Unfortunately, given the structure, scope and sequence of the traditional program, there is an underlying perception that education is a "way out of the village rather than an agent for development of village skills." (Bray, Clarke, Stephens, 1986, p. 149) Therefore, curricular reform that makes schooling more relevant to the daily, adult life of both male and female primary school graduates and school leavers is of primary importance since most of these will remain in non-skilled work.

Generally, there is agreement that the emphasis at the primary level and early secondary level should focus on basic skills including language, mathematics, social science and natural environment. There also is a remarkable similarity in time allocations that are devoted to the basic areas of study. Nearly 50% of instructional time is given to language and math instruction with the lion's share used to teach language--particularly when the time must be shared between first and second language instruction (Benavot and Kamens, 1989; and Rust and Dalin, 1990).

Although there has been little research evaluating the effectiveness of current vocational programs, there is agreement that these must in the future be based not on the social demand for schooling but on the supply of jobs in the labor market. The World Bank is conducting studies to gather baseline data on this question. Four findings have emerged from the preliminary studies: (i) the need for specialized vocational training in Africa is generally overstated, (ii) there appears to be an overly optimistic opinion about the ability of

educational systems to provide meaningful preparation for employment in this area, (iii) training programs that are currently operating are less cost-effective than on-the-job training, and (iv) most vocational programs that have been implemented are usually prohibitively expensive compared with the costs of general education (Middleton and Demsky, 1989 and The World Bank, 1988).

Instructional materials. Although learning can take place without materials it is much slower, much harder and more easily forgotten. In their study in Nigeria, Urwick and Junaidu (1991) found that behavior, comprehension, retention and teacher motivation were all influenced by the amount and quality of instructional and resource materials found in classrooms. Studies by Umolu and Mallan (1985) and Onyeleonu (1986) had similar findings and suggest that Nigerian children were not able to achieve functional literacy at the completion of primary school due in part to the lack of basic learning supplies and most significantly the lack of textbooks and teacher guides.

The lack of reading materials, including basic textbooks and trade books, is among the most severe resource scarcity in African schools. Children need reading materials to develop print awareness that precedes reading proficiency. Since few homes are able to provide any type of reading material the responsibility rests with schools to provide these materials. Studies that have been conducted have clearly shown that in countries where reading materials are not available in the homes or in the schools, children are reading as much as 2 standard deviations below the mean (Farrell and Heyneman, 1989; and Heyneman and Jamison, 1980). During the past fifteen years, massive efforts have been made by government, development and donor agencies to provide massive numbers of textbooks (many of which are locally written and culturally relevant) into developing countries. These textbook inputs have improved student achievement and a great deal has been learned about the production and distribution of textbook projects.

The distribution of textbooks does not guarantee that textbooks will then be used (effectively or not) in the classroom. Psacharopoulos and Woodhall (1985) found that most teachers they surveyed were ambivalent in their use of textbooks. Montero-Sieburth (1989) writes that teachers in Zimbabwe who were not trained in effective textbook use reported no change in student learning outcomes after the books were distributed. Moskowitz et al (1991) found textbooks that had never been used sitting on shelves in storerooms in Uganda. They also saw teachers who used the textbook as a resource book paraphrasing the book's content on blackboards introducing their own spelling and grammar mistakes. Montero-Sieburth (1989) warns that textbooks should not be introduced without training in their utilization.

Altbach (1983) writes that the most important consideration--even more than fiscal expenditures--when designing a textbook project is co-ordination between the education sector and the publishing industry. Student enrollment expansion, curricular reforms, and local expertise (both educational and in publishing technology) need to be considered when the publication of textbooks are being discussed. Although sustainability is often perceived to

be synonymous with local production this is not necessarily the case and careful consideration needs to be taken when deciding whether or not to produce the books locally. Factors that need to be considered include availability of raw materials, local printing technology and capability, feasibility of producing large numbers of books in short periods of time, and costs per book. Montero-Sieburth (1989) writes that the complexity of the publication of **good** textbooks explains to a large degree why they are rare in developing countries. They must be up to date, accurate, have lots of visuals, have an attractive appearance. All of this demands creative, well-trained personnel to author and print quality books.

At a textbook conference organized in England for African ministers of education (October, 1991), the question of local production was discussed at great length by The World Bank, the British Council, African educational leaders, publishers and donor representatives. One key point that came out of the discussions was that the publication of culturally relevant and locally written trade books which required less technology, a less demanding time line, and smaller production runs, were also badly needed and might be a more feasible area to invest in local production. Consideration needs to be given how support can be provided to potential authors and sponsors in the private sector in this area.

Other materials including basic furniture, blackboards, maps, science and math kits, and sports equipment are also badly needed. Although there is less evidence that suggests that these items have a strong impact on student outcomes recent research (Heyneman, 1980, Mwamwenda and Mwamwenda, 1987; and Urwick and Junaidu, 1991) has shown that all physical inputs impact the process of teaching and student capacity to learn. Study needs to be conducted to determine what the threshold level is for these kinds of investments and where the cutoff point is when the cost of inputs are greater than the benefits.

Instructional time. Making more efficient use of the educational facilities that exist lowers overall educational expenditures. Increasing the length of day and school year and reducing the number of school closings, student and teacher absences and school disruptions all increase instructional time.

Minimum averages for instructional time are approximately twenty hours a week. In countries where the total amount of instructional time is less, changes in the daily schedule can be developed to increase time on task. Where this is more problematic, such as cases where double streaming is implemented, focusing on core subjects--language and math instruction--should take priority over other subjects. Avoiding undue interruptions during school hours can also increase instructional time. Schools in rural areas often are less strict in attendance hours--start late, close early, have unscheduled closings, and so forth. Establishing clear policy guidelines that clarify what the responsibilities and time commitments are of principals, headteachers, and teachers can be effective measures against these problems.

Other factors that affect instructional time includes the distance teachers live from school and the cost of transport, teacher outside commitments, sub-standard facilities that

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prevent holding classes during inclement weather or require long breaks because of inadequate toilet facilities or lack of water (Montero-Sieburth, 1989).

Classroom teaching. Rugh et al (1991) report that effective teaching is based on positive teacher-student interactions. Effective teachers are aware of learning implications and sound pedagogical practices. They use positive reinforcement to discipline students, teach in the national language more than in the indigenous language and use teacher-directed learning activities that encourage student input and interaction and feedback. Furthermore, sound teaching uses logical sequencing in teaching, a variety of techniques, and establishes relationships from the known to the unknown through connections of the experience base of the children. It should be kept in mind that good teaching practices are synergistic and that effective teaching strategies used individually do not improve student achievement nearly as well as a total teaching package.

Hurst (1981) suggests that student-centered and interactive learning are effective in classrooms rich in resources. Urwick and Junaidu (1991) found that even where classrooms have minimal resources, interactive learning techniques may be more effective than teacher-directed oral expositions, which were associated with dramatically lower student learning, disorderly behavior, and students who were less attentive and more passive.

Information needs

Research on curriculum in fifteen developing countries disclosed that stated grade level objectives were often unrealistically high, conceptual gaps in the sequencing of content were common, teacher instruction and classroom materials were often inaccurate and teaching-learning concentrated at the lower level of critical thinking skills (The World Bank, 1990a). Consequently, research attention needs to be given to the sequencing of content as much or more than the scope of content. Unfortunately, most curriculum policy and reform centers on defining the scope of content--what should be taught and how much time should be given to each subject.

There is a general need for information about how instructional materials are used. Much of the confusing and seemingly contradictory information in the current literature about textbook use, for instance (as in the finding by Jarousse and Mingat, 1990, that mathematics textbooks did not appear to affect mathematics learning), may be explained by the general lack of research interest in how teachers alter their teaching style when textbooks are available, in whether there is a threshold effect depending on the percentage of students in possession of books, in the variable quality of the books themselves, and so on. Studies of this nature should be followed by analysis designed to help the education sector define priority textbook needs and develop a national textbook policy to meet these needs. Research is also urgently needed to determine the impact and cost-effectiveness of investments in other reading materials. (One commentator has suggested that to provide literacy training without providing books is like leading cattle across pastures upon which they are forbidden to graze.)

Thiagarajan and Pasigna's (1988) USAID-funded BRIDGES report on soft technologies (printed materials, chalkboard, posters, modules, instructional games, simulation, role-playing and workbooks) in teaching suggests that the effective implementation of good teaching with modularized learning materials and programmed learning materials can significantly improve student achievement in developing countries. Although these methods are underutilized, their popularity is growing because of the impressive results that have been documented. This is another area worthy of much greater attention than it has received in the past.

There is general agreement that interactive, student-centered approaches to learning work better than teacher-directed methods. Yet there has been remarkably little success in moving significantly in this direction. Future studies will need to look at the factors which affect the use teachers make of instructional materials, at factors affecting how change in teaching practice occurs, and at how variables exogenous to the classroom (testing practices, etc.) affect the learning environment.

3. Teacher Training and Motivation

The most valuable and limited resource in the educational sector is good teachers. Factors that contribute to the scarcity of good teachers in many countries include poor pay, poor working conditions and relatively low status. More capable people tend to look for other work that offers better remuneration, more career mobility, better working conditions. Attracting more capable individuals into the professions will remain extremely difficult as long as teacher salaries are significantly below national norms and often inadequate to provide for basic living needs (Lockheed and Verspoor, 1990).

Prouty (1987) writes that many secondary level teachers in Zaire are forced to work at two jobs or more and still have difficulty achieving a minimal standard of living. Moskowitz et al (1991) found that teachers in Uganda supplemented their teaching incomes through various means including charging for coaching (tutoring) their students before and after school to prepare them for the Primary Leaving Exam. Not only do insufficient salaries act as disincentives for people considering teaching, when teachers are forced to find work in addition to their teaching responsibilities to supplement their meager incomes, classroom instruction suffers and student learning is diminished.

Three determinants of successful teaching center on subject matter knowledge, pedagogical knowledge (and ability to implement that knowledge), and desire to teach. Of the three, subject matter knowledge and a sound comprehensive general education seems to be one that influences teacher effectiveness more than the other two. Wheeler et al (1989) found in their USAID BRIDGES funded research that when teachers failed to understand the basic concepts they were expected to teach they lacked the motivation to teach these things and often didn't. If they did, they did it poorly. Either way, the students were the losers.

Rugh, Malik and Farooq (1991), another USAID-funded BRIDGES work, write that the training teachers receive has little impact on student outcomes. They do indicate however that short, practical methods courses developed for in-service teachers that focus on a set of identifiable methods has been highly successful and seems to produce better results than longer and more costly pre-service programs. This may be true in part because many pre-service programs overly concentrate on theoretical issues rather than specific instructional strategies (The World Bank, 1990a). Dove (1986) writes that the amount of training teachers receive seems less important than the kind of training they are given.

In their review of the literature about teacher training in developing countries Simmons and Alexander (1980) concluded that 1) teacher certification and academic qualifications do not affect student learning at the primary level but seem to be of more importance at the secondary level and 2) that teacher experience seems to have a more positive impact on student achievement than qualifications. Verspoor and Leno's (1986) more recent review of studies conducted on teacher training corroborate Simmon and Alexander's findings. Their research demonstrate that in-service training is more effective than pre-service training and furthermore, that in-service training is more successful with unqualified but practicing teachers. Raudenbush et al (1991) write that in-service training is a more effective means to teacher training particularly when it is coupled with internal supervision. Again, the key element appears to be learning while doing.

Montero-Sieburth (1989) recommends that training for teachers include content area knowledge, time management skills, instructional techniques, and how to construct teacher-made instructional materials out of local materials. She further writes that improving the teachers' use of available materials can significantly increase quality without a dramatic increase in overall costs resulting in improved internal efficiency.

Wheeler et al (1989) describe a program in Thailand that used an interactive model of inservice to upgrade teachers for a two-year period from October 1984 to September 1986. Select sites were chosen as school clusters to train teachers. It was found that this reduced time away spent from classrooms and reduced the costs of the program. The program was carried out in three phases that focused on "hands on" training exercises promoting specific learning activities linked to a redesigned curriculum. Teacher response was high and a follow-up evaluation a year after the program had terminated found considerable evidence that teachers were implementing what they had learned with a high degree of success.

Distance training is an option that is becoming increasingly more attractive to developing countries. One advantage that has been documented includes training on site. This responds to several needs. It allows teachers to upgrade without having to take a leave of absence to attend courses at a teacher training center and forego their earnings during that period. Furthermore, given the critical shortage of teachers in many developing countries, replacements are hard to find. It also provides the teacher the arena to practice what is being learning using the workplace as a valuable learning resource. Distance training can also serve as a modified "in-service" program for other teachers working at the same

school. A multiplier effect has been observed in schools where a teacher is completing distance training as new strategies and instructional techniques are shared with colleagues.

A USAID-funded BRIDGES study has shown that another advantage of distance training is that greater numbers of teachers who desire upgrading can be accommodated. It also provides better access to those living in more remote areas. It has further been shown to reduce urban migration of qualified teachers. Since teachers working in rural areas never leave their classrooms the option to find a better position in an urban school after their upgrading program has been completed is somewhat reduced (Nielsen, Tatto, Djalil and Kularatne, 1991).

Inasmuch as the third element that affects teacher effectiveness--teacher motivation and desire to teach--is linked to finances, it becomes problematic to address. Research on teacher morale in Africa shows it to be highly influenced by the low pay, poor working conditions, poor career opportunities and lack of administrative support found in most African educational systems. Consequently, teacher absenteeism, high attrition rates and passive engagement characterize a growing percentage of teachers there.

A recent The World Bank study found that real teacher earnings declined 20 percent in francophone Africa and 13 percent in eastern and southern Africa between 1980 and 1985 (The World Bank, 1990b). Since as much as 95 percent of recurrent government expenditures at the primary level is paid towards teacher salaries and given the current economic situation in most African countries, it is unlikely there will be dramatic increases in teacher salaries in the short term. Making any real change here will require overall adjustment in financial expenditures to other sectors, a policy change to which many countries are reluctant to commit. Recently, Uganda substantially increased primary teachers' monthly allocations with a cost of living index increase. Unfortunately, even with this, an increment that nearly doubled the teachers' income, teachers are unable to meet their monthly living expenses (Moskowitz et al, 1991).

The lack of career staging negatively influences teacher motivation (Lockheed and Verspoor, 1990). The limited opportunities for advancement that do exist is often determined more through political favors and allegiance rather than through job performance and ability (The World Bank, 1990a). Furthermore, a large percentage of the teaching force are women who battle against gender discrimination as they seek better-paid and higher status administrative positions (Hughes, 1986; Hughes and Mwiria, 1989; Mwiria, 1987; Ruigu, 1985; Smock, 1977; and VanBelle-Prouty, 1991).

Research needs to be carried out to determine how to develop incentive programs that do not inadvertently undermine the quality of teaching and morale of teachers. In Uganda some teachers use donor-sponsored upgrading programs to negotiate better positions in urban schools that can provide better living conditions and slightly improved monthly allocations, thus further weakening the available teacher pool in the rural areas (Moskowitz et al, 1991). Wheeler et al (1989) describe similar complications elsewhere, again involving

incentive programs which rural teachers use to facilitate transfer to better schools in urban areas, leaving critical teacher shortages in the rural schools and further undermining teacher morale there.

Grant programs or competitions that are organized need to respond to the urban/rural inequities that already exist. A modified scale should be developed in order to effectively evaluate contributions or proposals that are submitted by less endowed schools.

Information needs

A research focus absent from most studies of teacher training needs in developing countries is that of how change in teaching practice actually occurs. Traditional teacher training programs have emphasized theory (psychology, sociology, etc.) often to the virtual exclusion of actual classroom management and teaching methodology. In-service programs tend to occur outside of the classroom setting and to give little more than lip service to classroom realities. Much more attention needs to be devoted to developing in-service programs which are school-based and classroom-oriented.

More research needs to be conducted demonstrating what the summative effects of investments made into inservice training are--does it produce a return in classroom teaching and learning? What kinds of programs produce the best results, are more cost-effective and are easily implemented in countries with few resources and difficult logistical constraints?

With more and more countries unable to fund traditional forms of pre-service training, much more research and analysis will need to be devoted to the development of alternative approaches. A promising area for study is that of using master teachers to work with teacher candidates over an apprenticeship period. This approach could not only dramatically lower the overall cost of teacher training but provide for a form of much needed career staging for professionals identified as master teacher trainers. It would, of course, require significant changes in the way the education sector is organized in most countries, with much greater school-level autonomy but also with more focussed central support for the school directors, who would presumably become responsible for overseeing the implementation of training programs.

Formulating clear guidelines on teacher advancement is a first step in enhancing teacher morale. This may be particularly effective when career staging is linked to restructured salary schedules that reflect the more responsible positions that require better training and more experience. To further enhance teacher morale, strategies would need to be developed that provide teachers opportunity for upgrading and staff development, grants for exemplary teaching, and realistic merit benefits. This would involve analysis of the possibility for new professional relationships between regional educational personnel such as inspectors and counsellors and school-level administrators. Research efforts would need to focus on how to move from external to internal models of teacher supervision.

4. Educational Management

Effective schools require management and leadership that can establish sound policy, allocate resources efficiently and equitably, determine accountability and evaluate the system's performance and effectiveness. This generally requires strengthening institutional capacity through organizational restructuring, developing information systems and enhancing managerial competence, both at a system-wide level and, particularly, at the school level.

With few exceptions, education systems in Sub-Saharan Africa tend to be highly centralized. Advantages of centralized systems include developing a sense of nationhood, a consistent curriculum, more efficient teacher training and a more cost effective system through pooled resources--both financial and human capital. Prouty et al (1991) argue that a top-down highly centralized educational system can be effective where a well-developed infrastructure exists, where ethnic and language differences are minimal and where school directors have a high degree of responsibility for instructional leadership and staff development. Yet in many African countries, the effectiveness of central management is hampered by a lack of telephone communications, inefficient postal service, long distances between schools and the MOE, poor roads, high maintenance and operating costs even for limited numbers of vehicles, and ethnic and linguistic diversity. These conditions have also led in many countries to a lessening of accountability on the part of sectoral management and a resulting increase in the prevalence of corruption.

Decentralized educational leadership is often suggested as the answer to such problems. This term implies a transfer of decision-making responsibility away from the core to the periphery of the education system (Thomas, 1990) and away from a single decision-making agency to multiple agencies. But the term itself is overly broad, for it never refers in fact to the decentralization of all aspects of an educational system. A careful country-specific plan needs to be developed indicating the objectives of decentralization, the organizational units to be involved, the principal actors in negotiation and implementation of the decentralization plan, and a description of the required personnel competencies and physical facilities.

Decentralization and democracy are popular terms which can easily mask realities which are quite different from what these terms would suggest. Where the primary motive for decentralization is political, with a central authority attempting to placate diverse local bodies, what is termed decentralization may in fact be little more than recentralization, with regional bodies created under central control. This underscores the importance that the decentralization process be a fully participative one, and one which is informed by careful analysis and research at all stages.

A well-established body of information exists, particularly in the U.S. literature, regarding the role of the principal in creating effective schools. This literature suggests essentially that principals who take an active role in instructional leadership--visiting classes, fostering a climate which stresses academic achievement, providing for regular monitoring of

student learning, maintaining an orderly, disciplined environment--can have a positive impact on the quality of learning even where limited financial resources are available. The policy implications of this literature are particularly applicable to the African educational setting, with the potential for enormous impact on the way schooling is organized and on ultimate student outcomes, yet very little study has been conducted about effective principal leadership in Africa.

Information needs

Information needs exist regarding all aspects of sector management, but there is good reason to believe that a priority should be given to developing more information about the impact of school-level management, particularly where a move toward more decentralized patterns of management are envisioned. The role of the school director in Africa differs enormously from country to country and even within countries. Some function as headteachers with almost no administrative authority (as in Togo, for instance). Others are headteachers with important leadership functions. Still others are non-teaching administrators, but with little instructional leadership role while others are non-teaching instructional leaders (as in Burundi). Similarly, in some countries, principals are responsible for only one school while in others (Zaire, for instance), they may be responsible for a cluster of half a dozen schools spread over a wide geographic area. Each of these models merits careful research attention to determine optimal arrangements and methods of organization for each country.

The improvement of information systems is also crucial to the development of sound managerial capacity and will require a good deal of thoughtful consideration. Issues worth exploring further include the role of external examinations in strengthening school-level accountability and supporting curriculum development and the role of internal examinations in providing timely information to students and teachers about achievement of learning goals and permitting identification of students with special needs. The improvement of monitoring and information systems and the capacity to analyze and use the information received are all areas in which far more operational research is needed.

Finally, more information is needed about the potential ways in which the capacity of school managers can be improved. Very few pre-service training programs exist, and very little in-service training for school directors is organized. Yet it may be that this would be a far more effective role for school inspectors than their current role of visiting teachers. Research in this area should focus on how school systems with limited resources can better marshal those resources in support of instructional leadership and strengthened administrative capacities of school directors.

5. Educational Funding

The recurring theme that weaves its way through the previous four discussions is the need for greater financial investment in the educational sector. More money can build more

and better schools. More money can improve access for all children. More money can buy textbooks, instructional materials, furniture. More money can pay better salaries and attract more and better teachers. Although money isn't the panacea to the problems of education in Africa, it certainly is a contributing factor to the declines in quality and access.

Recent trends in public expenditures in most African countries demonstrate that the education sector is frequently the victim of budget cuts. The World Bank data shows that during the last decade allocations to the education sector have seriously declined. Some examples include Cameroon, from 21.3 to 17.2 percent; Kenya, from 19.4 to 15.3 percent; Nigeria, from 16.5 to 9.3 percent; and Somalia, from 12.5 to 6.3 percent (The World Bank, 1986). More recent reports indicate that the situation has yet to stabilize. Given this and the increased demand that high fertility rates place on the education sector, the already deteriorating condition of most African systems will result in educational crisis throughout the continent.

One response needs to be increased government expenditures to education through a redistribution program. Zymelman and DeStefano's (1989) review of data on teachers' salaries and the cost of primary schooling highlights the heavy financial constraint salaries place on the education sector. They forecast an annual 4% increase in total teaching costs for African countries over the next decade. Unfortunately, this percentage is significantly higher than the expected real growth rate of most Sub-Saharan countries' operational budgets for the same period. Therefore, these statistics underscore the necessity to establish conditionalities for changes in policy that favor educational expenditures which are linked to donor and development money.

It is unlikely, however, that the economic situation for most African countries will change dramatically enough to meet the recurring financial needs of their education systems, let alone respond to increasing demands, even with a redistribution of government allocations. Therefore, it is necessary to evaluate current funding practices to see where funds are being misallocated, misappropriated and misdirected. Efforts to reduce the dependency that educational systems place on central government revenues is also necessary particularly at the higher levels of the educational hierarchy.

Morna (1991) writes that universities and colleges throughout Africa are exploring ways to subsidize their costs as central allocations are being reduced. Self-reliant money-making efforts and cost-reduction techniques that are being implemented include cutbacks on perks, developing businesses and farms, offering consultancy services, etc. Eisemon (1991) examined the contribution of small church affiliated educational institutions and concluded that they provide a viable option to countries struggling to meet the increasing costs of tertiary education.

Much more needs to be learned about ways in which alternative sources of funds can be generated through privatization or self-reliance programs at the lower levels of the educational hierarchy particularly at the secondary level. However, the coupling between the

educational and private sector must be strengthened if privatization of education can take place (Psacharopoulos, 1990). Unfortunately there is the risk that privatization can lead to socio-economic inequities but with the current constraints that most African countries are facing the benefits outweigh the risks.

Analysis of social rates of return for education show strong evidence that the greatest payoff for educational investment occurs at the primary level. However, funding patterns continue to disproportionately allocate resources to the secondary and tertiary levels of schooling, with unit costs at the tertiary level often fifty to one hundred times higher than at the primary level. Initially, heavy appropriations at the higher levels of the education hierarchy may have been necessary to increase the numbers of technicians, professionals and skilled laborers that were in critical demand after independence. Currently, however, these same policies often act to limit participation in higher education and to increase existing social inequities. Since students were often considered to be public servants, they were in many cases granted a living stipend based on civil service scales. Although this explicit link between university schooling and civil service is no longer justified, in many cases the stipends have been maintained. Annual stipends in many countries--not including tuition costs--run in excess of $2000, often exceeding per capita incomes by five to seven times. (The World Bank, 1986).

Over the years, as the shortages of trained personnel have been filled (currently some countries have large surpluses of individuals who cannot find work in their areas of training) efforts to discontinue these subsidies have been highly unpopular. Student riots at universities across the continent have resulted in both loss of property and life. However unpleasant the decision may be to discontinue these subsidies and free tuition, few countries in Africa can continue to afford these expenses. These stipends further undermine efforts to equalize educational opportunity since they often finance education of middle-and upper-income families who can afford to pay both tuition costs and living expenses (see Mingat, Jarousse and Rapiau, 1986, for a Togolese example of who benefits from these practices).

Developing cost recovery programs or user charges is another way that government inputs to education can be supplemented. Many countries have begun allowing local schools to charge additional fees for textbooks, school construction, etc., through the organization of parents' associations, which have quickly become one of the most important new features of school organization in many African countries. User fees at the primary level, however, come at a cost to equity and access and may need to be accompanied by subsidies to high risk groups. Cost recovery at the secondary level and particularly the tertiary level where education benefits the elite more than others in society, is an attractive option, but few examples of effective implementation exist. There is nevertheless evidence that the payoff of private investment in higher education in Africa is high enough that many individuals will be willing to invest. The introduction of fees for higher education is also attractive because it creates demand for better accountability of money, reduces seepage of funds and increases internal efficiency. Cost recovery systems and user charges also have the potential to result in increased efficiency because they raise user cost-consciousness and can lead to

improvement in student selection. Academically poorer students who have a greater probability of failing are hesitant to invest money into a training program or degree that is not likely to materialize. When user charges are implemented, selective scholarship programs can be designed so that meritorious students are not denied access to higher education.

Another cost recovery program that needs further study involves graduate taxes or employer taxes that tie in funding with specialized knowledge and needed skills (Albrecht and Ziderman, 1991). Information on the effectiveness of these programs especially on the supply and demand of skilled labor and graduates' employment and salaries would be valuable.

High grade repetition rates significantly increase the cost of education in many African countries. The World Bank (1990b) reports that the average repetition rate at the primary level is 16 percent in low-income countries with a high of over 30 percent. The problem is less acute in the English-speaking countries. When repetition is attributable to poor quality education, costs may be reduced by increasing inputs in relevant areas thus improving learning, reducing grade repetition and lowering overall costs. However, not all research attributes repetition to issues of educational quality.

Schwille et al (1991a) found in their USAID-funded BRIDGES study in Burundi that high repetition rates, particularly for the sixth grade, occurred because of the barrier imposed to secondary level schooling. Students were repeating in order to improve their chances on the state exit exam at the end of grade seven which controlled access to secondary level schooling. Their work demonstrated that grade repetition was more a response to the highly competitive selection process of the Burundian system than the quality of education there. Research on grade repetition in developing countries (Haddad, 1979; Haddad et al, 1990; UNESCO, 1984; and The World Bank, 1990) often associates the high repetition rates with poor quality instruction and question the cost-efficiency of repetition when resources are so scarce. Both factors--quality or access--are symptomatic of the internal inefficiency of African educational systems and merit more study.

Information needs

Research needs to be conducted to forecast primary school expenditures in the next decade. This includes analysis of teacher salaries (what are the basic salaries that must be paid to provide for an adequate standard of living, how to develop a realistic salary schedule that reflects qualifications, experience and position, establish attrition rates and average retirement age, etc.) and development of policies to minimize teachers' cost. Study also needs to be given to the impact that measures such as merit pay, hardship allowance and subject-differential could have on the system. Could the implementation of these provide a mechanism for higher expenditures (higher salaries) in areas (content area, regional and geographic, etc.) of greatest need, provide a career path and possibly lower the high teacher attrition rates? Although supplements to teachers' salaries is increasingly falling into disfavor, research should address how community involvement, particularly with in-kind contributions

such as food and housing, would enhance teacher morale and lower attrition rates particularly in rural areas.

Study of cost recovery programs, user fees, employer or graduate taxes, and privatization of schooling all need to be conducted. Finding alternative forms of funding will become increasingly more urgent as the number of children desiring access to school get larger and central governments are unable to bear the expense of education.

Other methods to reduce the internal inefficiency of schooling is through lower construction costs (or renovations of existing schools and other community buildings), multi-grade classrooms, higher student-teacher ratios, and lowered teacher training costs. Although these have been discussed elsewhere in the paper, it is worth reiterating that when scarce funds can be reallocated into other areas of critical need, student achievement can be dramatically improved. Therefore, study on how these can be best implemented should be given priority.

6. Education and the Community

Research in developed countries is increasingly showing the value of community involvement in educational programs. Yet the landscape of educational reform in Africa is strewn with the wrecks of a number of schemes structured around community responsibility for schooling, from the Ujamaa schools in Tanzania to the "écoles cp, imaitaores" in Burundi. One is forced to look as far afield as Papua New Guines (Saunders and Villiamy, 1983) and to Colombia for examples of programs in developing countries which have successfully planned for significant community involvement. Yet ironically, the community involvement did not occur in Africa as a result of government planning is now beginning to occur by default.

Central government cutbacks in educational allocations during the past decade have driven many communities to form parent groups who become active participants in local schools. Although this participation is most often focused at construction and maintenance of schools such as in Uganda, in some areas parents help in the classrooms, assist in certain kinds of local administrative decisions and are actively involved in funding of school programs and staff such as in Ethiopia, Rwanda, Senegal, Zaire and Zimbabwe.

Local commitment is especially important when looking at how change is implemented. When all stakeholders involved in educational reform--including parents, teachers, administrators (both school-level and district-level), and government officials--are given ownership in the process, support has been shown consistently to be greater (Verspoor, 1989). This is particularly important at the school level since the ultimate success of the change is determined there.

There are several reasons why ownership contributes to greater commitment and support. One is that channels of communication are generally developed that provide greater

feedback and monitoring on the way change impacts the classroom. This allows program designers and managers to adapt the programs to better fit the classroom needs and environments. Another is that there is generally less resistance to programs where all groups are given the opportunity to contribute. Parents who are not informed of the change and how it will benefit their children (or their community) will resist providing financial and emotional support for these changes.

Community input is especially crucial when curricular reform is being considered. Recent studies (Diarra, 1991; Moskowitz et al, 1991; VanBelle-Prouty, 1991) have shown that parents often devalue the educations their children receive. One of the reasons that this is happening is the perceived lack of relevancy. More effort needs to be taken to determine what kinds of skills and knowledge are needed in the community and the labor force and to develop a curriculum that responds to these.

Schaffer (1991) writes that active parental participation is a key element in strong educational programs. He posits that communities, churches, and non-governmental organizations constitute valuable school resources and must become part of the learning community centered around the school.

Information needs

Study needs to be given to ways of developing dialogue among communities (parents), school-level educators, district-level educators and administrators and educational planners at the ministry level. Needs assessment surveys should be conducted to determine what parents, communities and the labor market expect of schools. This information should serve as the basis for curricular reform.

For all the talk of community participation in schooling, there has been very little research attention given to the incentives and disincentives to community involvement. Official policy statements notwithstanding, governments have generally tolerated community involvement only to the extent it permits generation of resources otherwise unavailable to the school system, and have rarely looked at what other contributions the community might make to the school system. This means that for the most part, nothing is know about the reciprocal relationship between community participation and the quality of teaching, student outcomes, ease of entry into the labor force after completing schooling, etc. Given the probability that community participation in schooling will continue to increase as governments' ability to fund the sector at desired levels declines, increased attention to these phenomena, along with the more traditional areas of interest such as generation of new funding for the educational sector, is warranted.

Innovative ways to utilize community resource people in the schools should also be explored. Parents of school-age children who are not well educated may be reluctant to become involved in school programs and activities. Developing avenues for all parents, regardless of education or skill level, to contribute and participate is essential. This is

particularly true in rural areas where literacy rates are often lower and the need for community involvement is often greater.

7. Data Reliability, Validity and Utilization

Much of the data that currently exists on the education sector in Sub-Sahara Africa is of little use to educational planners (Levin, 1989 and Tyler, 1986). This lack of utility results from several reasons: 1) much of it is inaccurate; 2) the modern technology to gather, record and retrieve information makes accurate data dated before it can be effectively accessed; 3) there is an over emphasis on quantifiable inputs as opposed to educational outcomes and the learning-teaching process; 4) the manner in which data is analyzed and written limits the audience that can use the information; 5) data are generally treated as export commodities, generated by personnel and technology external to the countries involved, with little thought to stimulating local consumption; and 6) there is a lack of trained personnel who know how to interpret research information and design intervention strategies. In order to develop policies that will respond to the educational needs in a country and implement educational strategies that will make a difference, educational planners must be well-informed. Therefore, improving the collecting, analyzing, interpreting and dissemination of data relevant to the education sector is another key area of concern.

Research activities will need to be planned in response to four groups of stakeholders. The first group, parents and teachers have daily interaction with students--data collection will need to be tailored to respond to this unique relationship with individual learners. This is the level where the greatest information gaps exist partially because of the difficulty of gathering the kind of information that is needed. The second group, school directors, have indirect impact on the learner through their interaction with the classroom teacher. Information needs at this level are often school-based and deal with administrative issues such as allocations of resources, evaluation of programs, community response to school programs, etc. At the next step in the hierarchy, district-level educational planners have almost no impact on the individual learner. They must respond to issues that demand a much broader focus which may vary a great deal from one school or region to the next. At the highest level, information about malleable educational variables is required in order to enable ministry personnel to deal with broad policy issues in a way that responds to the educational needs of all the schools throughout the country. Furthermore, at this level linkages between the various sectors must be considered in order to ensure that social and economic needs will be met over the long term (Ross, 1990).

Given the test-driven nature of the school systems in most African countries, the whole subject of test development, administration and use represents a virtually unexplored area where research-based reform is crucial. Currently, exams serve more as sorting mechanisms than evaluation instruments that provide essential information on the effectiveness of the curriculum, determine learning outcomes and permit monitoring of the educational programs. There is a considerable disjunction between what is tested and the defined educational objectives. This is due in part because of the backwash effect in play--teachers teach to the

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test (or what they think is on the test) and ignore everything else in the curriculum. A second reason for this is that many African countries lack the qualified personnel who are skilled in psychometrics to develop tests that can effectively measure curriculum goals, comprehension and higher order cognitive skills. Therefore, tests are mainly composed of recall questions that only require rote learning. (A significant part of the problem is the simple fear of leaks--tests are in many countries composed by a single individual working in isolation from test items submitted by teachers and inspectors.)

Chapman and Windham (1986) write that a key component of effective research is agreement among stakeholders over what needs to be researched, why it needs to be researched the way the research will be conducted and how the findings will be used. Bratton (1990) underscores the dichotomy that often exists between research funded by outside donors and national leaders. Clearly, ensuring that there is a shared agenda between outside researchers, local scholars, government agencies, etc. is a key consideration.

Much of the research in Africa is funded and completed by countries other than the country in which the research is being conducted or by private individuals or institutions from other countries. Valuable information is often gathered that is not available to educational planners in these countries. Therefore, developing better information exchanges between countries, educational institutions, corporations, etc. that have access to this data is necessary.

Too often research is gathered too quickly in too short a time span to assure the validity of results. Research conducted by multi-lateral and bilateral organizations is often subject to the pressures inherent in situations where short time frames prevail, with a political need for noticeable, quick results. Political instability in many African countries also contributes to the short-term, disjointed nature of many research-gathering processes. Too often research and programs begun under one regime are abandoned when a new one takes over. Information that has already been gathered may no longer be relevant (or desired).

Information Needs

More information needs to be gathered on educational behaviors and the contexts in which children learn best. This research needs to be framed in such a way that stakeholders at the lowest level are able to respond to what is learned in order to enhance educational outcomes. Surveys of needs assessment should be collected to assist in planning for labor market needs, community needs, individual student needs, teacher needs, etc. Study also needs to be undertaken at identifying effective teachers and administrators and disseminating information on their techniques and innovations.

Information is also needed on the best method of research dissemination both vertically and horizontally. Well-defined modes of communication are essential particularly when examination and research centers operate externally to the Ministry of Education. How to develop information-sharing capacity across regions (i.e. beyond national borders) is also an area of concern. The manner in which cultural, economic, sociological, etc. variations

influence the applicability of information from one context to another merits consideration. Exploring new avenues of information dissemination that have not previously been considered is important. Ross and Mählck (1990) encourage the active participation of professional journalists and media specialists in this process. Public meetings and other forms of broadly-based public meetings are another avenue that they suggest should be explored as avenues of information dissemination. These methods can be particularly effective because they develop channels for two way dialogue--from educational planners to the community and from the community to educational planners.

Cost-effective means need to be devised for establishing statistical departments within education ministries capable of maintaining meaningful data bases. Research needs to be conducted to find out what skills are needed most for these departments, how these skills can be introduced, what technology is needed to gather, store, retrieve and distribute the information, etc.

Developing the capacity to continually assess student achievement is another area that needs further study. Lack of information about the progression of student learning (from grade to grade), how student learning compares across gender, regional, SES, etc. variables (or from one country to the next) increases the difficulty of monitoring the system and complicates implementing effective strategies to improve student learning. Longitudinal studies are needed to provide reliable information about learning trends, and about the impact on learning of changing pedagogical and social conditions. This approach is essential if sustainable improvements in the quality of education are to be attained.

F. SUMMARY OF RESEARCH GAPS IN EDUCATION

Future research efforts will need to focus much more on issues of implementation and much less on descriptions of what the ideal school would look like. There needs to be less attention given to correlations between discrete variables and much more attention to interactions between inputs. Above all, sustained research attention is needed focussing on the political and social constraints to changes in the way schooling is organized and resources are allocated.

The following are some of the key areas in which significant knowledge gaps exist at present:

- equity and access
  - optimal grade/class grouping patterns
  - structural constraints to implementation of low-cost participative modes of construction
  - attainment of uniform student-teacher ratios throughout a given cycle of schooling

- equalizing access to learning within the classroom for all students
- development of large group teaching methods
- distance learning
- impact of language of instruction
- potential for special needs instruction (perhaps with private sector support)

• learning environment and resource scarcity

- political context of examination reform
- curriculum sequencing
- availability of textbooks, definition of needs
- more effective use of instructional time

• teacher training and motivation

- alternate forms of pre-service training
- support for internal supervision of teachers
- support for career staging

• educational management

- support for decentralized management
- development of information systems, monitoring and analysis
- instructional leadership role of school directors
- optimal patterns of regional and local management
- training of managerial personnel

• educational funding

- cost-recovery mechanisms
- reallocation of resources between levels of schooling
- impact of donor participation
- redistribution of government allocations
- graduate and employer taxes
- privatization of schooling

• community involvement

- creating channels of dialogue
- determining what factors serve as disincentives or enhancers of community involvement
- exploring ways to involve all parents regardless of education or skill-level
- conducting needs assessment with parents and potential employers to determine expectations

- data reliability, validity and utilization

  - developing education data base systems
  - developing continuous student assessment
  - developing program monitoring instruments
  - collection of data on enrollment, attendance, inputs, costs, attrition rates
  - developing defined modes of communication for dissemination of research findings
  - improving psychometric capacity with key personnel.

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ANNEX L

ONGOING HHR RESEARCH

RESEARCH AND ANALYTICAL ACTIVITIES
HPN AND EDUCATION DIVISIONS/AFRICA BUREAU
AGENCY FOR INTERNATIONAL DEVELOPMENT
ONGOING OR PLANNED - DECEMBER 1991

FAMILY HEALTH INITIATIVES - II (FHI-II)

Title of Analytical Activity: Country Profiles (BuCen PASA)

Type of Analytical Activity: Data synthesis and analysis presentation that focuses on communication with policy makers, and technical managers

Funding Level: $2,500/country profile
$75,000 for 30 profiles

Starting Date: Ongoing
Final Product Due Date: September, 1992

Expected Final Product: 15-20 Country profiles

Principal Investigator/ Implementing Organization: Chuck King
Bureau of the Census

Research/Analysis Objectives:

Provide to policy makers and technical program managers information on the major health, population and nutrition indicators, trends, policies and issues for individual countries.

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Title of Analytical Activity: Country-Specific Reports on teenage and Young Adult Women in Sub-Sahara Africa

Type of Analytical Activity: Secondary analysis of data collected in the Demographic and Health Surveys (DHS) conducted in 10 countries in Africa.

Funding Level: $56,264

Starting Date: December, 1991
Final Product Due Date: May, 1992

Expected Final Product: Ten country-specific profiles with one summary report.

Each of the six working groups includes six to seven members, and each includes at least one African researcher.

Research/Analysis Objectives:

Populations in Sub-Saharan Africa are experiencing important changes, and policy-makers require critical assessments of these changes as they develop economic, social and population policies. At the same time, the quantity, quality, and availability of data on demographic processes in Africa have improved considerably, and analytical procedures for dealing with incomplete or inaccurate data have increased in flexibility and scope. Furthermore, the numbers of African scientists and research institutions have grown as well. A major goal of these research and analytic activities is the production of information for policy-makers and researchers in the United States and in developing countries.

The National Research Council's Committee on Population named an 11-member panel on Population Dynamics of Sub-Saharan Africa to undertake analyses of these important demographic changes. Six working groups were established to carry out the analytic activities. Two groups are undertaking country studies in Kenya and Senegal focused on demographic change (fertility, mortality, and migration) for small areas. The other four working groups are undertaking cross-national studies of specific demographic processes, including: factors contributing to increased contraceptive use in specific locales; the demographic effects of economic reversals and related curtailment of social programs; the effect on mortality of primary health care and child survival programs; and the social dynamics of adolescent fertility.

An additional activity will be a regional demographic assessment of fertility, mortality and migration levels and trends. The objective will be to take a critical look at data quality and to employ the most advanced methods to make best estimates of levels and trends.

****

Title of Analytical Activity:	Africa Regional Demographic and Health Survey (DHS) Nutrition and Family Health Initiative
Type of Analytical Activity:	Secondary Analysis of DHS Data; Interpretation of Data; Presentation of information for policy and programming purposes. Approximately fifteen-twenty African countries by the end of 1993 will have had DHS surveys.
Funding Level:	$486,397
Starting Date:	October, 1991

Final Product Due Date:

Expected Final Product: Briefing Materials
5-10 country reports
3-5 comparative analysis reports

Principal Investigator/ Implementing Organization: Macro Systems

Research/Analysis Objectives:

To increase the utilization of the DHS anthropometry and feeding data for policy and program development purposes in Africa.

To analyze the linkages between nutrition, morbidity, mortality outcomes and sanitation, education, and feeding variables for selected countries.

To increase the capacity of host countries and Missions to manipulate and use the data for policy and programming decisions.

(African Child Survival Initiative - Combatting Childhood Communicable Diseases)

Title of Analytical Activity: Community Survey of Dysentery

Type of Analytical Activity: Community survey of persons who had dysentery and of persons who died of dysentery

Funding Level: $15,500

Starting Date: July 1992

Principal Investigator /Implementing Organization: Dr. Lisa Lee/Dr. Maureen Birmingham
Medical Epidemiologist
International Health Program Office
Centers for Disease Control

Expected Final Product: Demographic features of dysentery and dysentery associated deaths; national incidence rate, mortality rate and case fatality rate of dysentery; risk factors for acquiring dysentery and for dying from dysentery.

Final Product Due Date: July 1993

Research/Analysis Objectives:

The purpose of the survey is to determine the public health importance of dysentery in Burundi by defining the problem in terms of national incidence rate, mortality rate and case fatality rate. The identification of risk factors will aid diarrheal disease control program managers to focus preventive measures towards those persons at risk and on those behaviors that increase risk of acquiring or dying from dysentery. It will also aid in the case management of dysentery by identifying those patients who are at increased risk for dying so that they can be triaged for more intensive treatment and monitoring.

****

Title of Analytical Activity: Mortality Follow-up of Dysentery patients

Type of Analytical Activity: Follow-up survey of dysentery patients

Funding Level:

Starting Date: January 1991

Principal Investigator /Implementing Organization:

Dr. Marcelline Ntakiburori
Director
Diarrheal Disease Control Program
Ministry of Health, Burundi

Assistance with analysis:
Dr. Maureen Birmingham, TSD/IHPO
Centers for Disease Control (CDC)

Expected Final Product: Case fatality rate of 189 persons who were treated at health centers for dysentery during the peak season for dysentery. Demographic information and risk factors of treated dysenteric patients who died of dysentery compared to treated dysenteric patients who did not die.

Final Product Due Date: January 1992

Research/Analysis Objectives:

The purpose of the survey is to learn the case fatality rate of persons who were seen at health centers for dysentery. Since stool samples were also collected on these patients, the pathogen identified and the antibiotic sensitivity test can be compared for those dysentery patients who lived and those who died.

****

Title of Analytical Activity: Continuous Laboratory Surveillance of Dysentery in Burundi

Type of Analytical Activity: Weekly collection of dysenteric stool samples from 4 to 5 health centers located in an area of high risk for dysentery in Burundi, and performance of cultures and antibiotic sensitivity testing of these samples at the National Laboratory in Bujumbura.

Funding Level: $5,000

Starting Date: July 1992

Principal Investigator /Implementing Organization:

Dr. Marcelline Ntakiburori
Director
Diarrheal Disease Control Program
Ministry of Health, Burundi

In collaboration with:
Dr. Joy Wells
Enterics Branch, DBD, NCID
Centers for Disease Control (CDC)

Expected Final Product: The identification of pathogens associated with dysentery and their antibiotic sensitivity patterns.

Final Product Due Date: July 1993

Research/Analysis Objectives:

The purpose of this surveillance is to identify the pathogens associated with dysentery, to compare the pathogens isolated during the peak season of dysentery with those isolated during periods of low incidence, to compare antibiotic sensitivity patterns during high and low incidence periods and to monitor antibiotic resistance patterns of these pathogens.

****

Title of Analytical Activity: Comparative Analysis of Training Methods - Nigeria

Type of Analytical Activity: Repeated observational assessments of the performance of health workers participating in various types of training interventions.

Funding Level: $61,000

Starting Date: October 1989

Principal Investigator /Implementing Organization:

Jennifer Bryce
Ann Voigt
ABAB/TSD/IHPO
Centers for Disease Control
Atlanta, GA

Ministry of Health
Niger State, Nigeria

Expected Final Product: Revised training guidelines based on findings of research (completed, 11/91)

Report of Impact of Training on Health Worker Performance (completed, June 1990)

Report of analytic work submitted for publication in a peer-reviewed professional journal (expected by May 1991)

Final Product Due Date: June 1992

Research/Analysis Objectives:

The purpose of this analysis is to determine the immediate outcomes of an ongoing training program on the skills of primary health care managers, and the longer-term impact of the training on primary health care service delivery. Many recent training programs take place in workshop settings, with little or no provision for actual practice of new skills or follow-up of trainees after they return to their clinics. The training program in Niger State was designed to provide ample practice opportunities and field follow-up, and the analytical activity was designed to assess the outcome and impact of these strategies.

****

Title of Analytical Activity: Community practices during diarrhea--CAR

Type of Analytical Activity: Comparison of children with diarrhea who had signs of dehydration with those without signs of dehydration to identify practices that might protect children from developing dehydration. A case-control study design was used, and Peace Corps volunteers collected the primary data in rural villages in CAR.

Funding Level: $6,000

Starting Date: The study protocol was written during late 1989 and early 1990. The study was conducted during April, May and June 1990.

Principal Investigator /Implementing Organization: Scott Endsley TSD/IHPO/Centers for Disease Control (CDC)
In collaboration with:
The Ministry of Health of CAR

Expected Final Product: Manuscript

Final Product Due Date: Preliminary report finished November 1990, circulated to the CAR Ministry of Health. Final report expected March 1992, and final manuscript to the submitted to clearance June 1992.

Research/Analysis Objectives:

This study was designed to compare home case management practices of families whose children developed dehydration during diarrhea with practices of families whose children did not develop dehydration. Because of logistic problems only one-third the anticipated sample size was enrolled. Nevertheless, the data have the potential to identify practices that could prevent dehydration. Preliminary analyses indicate that use of SSS, antimicrobial drugs, and adding salt to weaning broths were protective against dehydration. These results are preliminary and may change with further analysis.

****

Title of Analytical Activity:	Early Childhood Mortality among Women Presenting to Maternities in Bangui, Central African Republic
Type of Analytical Activity:	Documentation and Analysis of Preceding Birth Mortality and Verbal Autopsy Data Collected in 4 Maternities of Bangui
Funding Level:	$12,000
Starting Date:	October 1991
Principal Investigator /Implementing Organization:	Giselle Falkenberg, M.D. Preventive Medicine Resident International Health Program Office Centers for Disease Control Atlanta, GA
Expected Final Product:	Description and Analysis of Preceding Birth and Verbal Autopsy Techniques as applied in the maternity clinics of Bangui.
Final Product Due Date:	June 1992

Research/Analysis Objectives:

The goal of this study is to test the feasibility of the preceding birth techniques for monitoring child mortality trends using maternity clinic populations. Specifically, the study will aim to describe mortality for preceding children of mothers at the Bangui maternities, and derive corresponding age-specific mortality levels based on assumptions of both the preceding birth technique and the Brass technique. Second, the study will provide details on the relationship between preceding child mortality and maternal characteristics such as age, parity, birth interval, socioeconomic status, and education.

Third, the study will attempt to characterize the population of deceased preceding children by reported cause of death, age, and symptomatology.

****

Title of Analytical Activity: Feeding practices during diarrhea, Togo

Type of Analytical Activity: This study is a clinic-based assessment of child feeding and case management during diarrhea.

Funding Level:

Starting Date: This study was initially planned in December 1989. Data collection did not begin until June 1990. Logistical problems continue to delay implementation; data collection is on-going.

Principal Investigator /Implementing Organization: Dr. André Briend, Dr. Maye Olivola TSD/IHPO/Centers for Disease Control (CDC), Dr. Aristide Aplogan (Togo Ministry of Health)

Expected Final Product: Manuscript

Final Product Due Date: Manuscript will be submitted for clearance June 1992

Research/Analysis Objectives:

The study is designed to determine the sodium and potassium contents of weaning foods, and foods given to children during diarrhea. In addition, serum sodium and potassium levels will be determined in children with diarrhea, and correlated with diet and severity of dehydration. The guiding hypothesis is that children are at risk for complications of low sodium and potassium levels during diarrhea because these minerals are lost during diarrhea and may be inadequately replaced by traditional foods.

****

Title of Analytical Activity: ORTU questionnaire

Type of Analytical Activity: This research activity has involved collecting and summarizing clinical and epidemiologic data for cases of diarrhea from each CCCD country with a central oral rehydration unit.

Funding Level:

Starting Date: This activity was begun in September 1988. Records became available from different countries at different times. For example, Cote d'Ivoire records became available in December 1990.

Principal Investigator /Implementing Organization: Maye Olivola, TSD/IHPO
Centers for Disease Control

Expected Final Product: Individual country reports, summary final report, manuscript.

Final Product Due Date: Individual country reports for CAR, Cote d'Ivoire, Burundi, and Swaziland have been completed. A summary document is anticipated by April 1992 and a manuscript by October 1992.

Research/Analysis Objectives:

By the late 1980s all CCCD countries had developed a training strategy for the control of diarrheal diseases that included a central oral rehydration unit. In addition to serving as a site for training, these sites served as sites of excellence for case management of diarrhea. Clinical and epidemiologic data were recorded for each case of diarrhea treated at these units and collectively serve as a very complete picture of the characteristics of cases of diarrhea in each country.

Through this activity we will characterize diarrhea in children in each CCCD country in epidemiologic and clinical terms. These data are valuable as baseline indicators of diarrhea in Africa.

****

Title of Analytical Activity: Pilot intervention for ARI--Lesotho

Type of Analytical Activity: This activity involved assembling 3 research activities conducted in Lesotho and assisting Lesotho MOH personnel to develop the first phase of a national ARI control program.

Funding Level: $69,000

Starting Date: This activity was planned in August 1988, a national workshop was held in December 1989, and the evaluation of the first phase was conducted in April and May 1991.

Principal Investigator /Implementing Organization: Stephen Redd/Anne Rodman/Ruth Wilson, and Dr. Malikotsi Metsing, Ministry of Health of Lesotho TSD/IHPO, Centers for Disease Control (CDC).

Expected Final Product: Major products include documents of the various stages of plans for the National ARI program and a manuscript of the process and findings of the review of the first phase of the national ARI program.

Final Product Due Date: The plan for the first phase was completed in February 1990, the 5-year plan for expanding the National ARI program was completed in May 1991. A draft report of the first phase review was completed in May 1991, and a final manuscript is projected for February 1992.

Research/Analysis Objectives:

This activity was designed to document and explain the process of developing the ARI program in Lesotho including baseline studies, the process of incorporating epidemiologic, clinical, and social science data into program design, and describing how this process was evaluated.

****

Title of Analytical Activity: Risk factors for severe diarrhea-associated illness among African children

Type of Analytical Activity: A prospective study involving collection and comparison of detailed laboratory, clinical, and epidemiologic information on children in Cote D'Ivoire with more severe and less severe diarrhea-associated illness.

Funding Level: $88,000

Starting Date: May 20, 1991

Principal Investigator /Implementing Organization: Dr. Lisa A. Lee
Epidemiologic Support Branch, TSD, IHPO
Centers for Disease Control

Expected Final Product: Summary Report

Final Product Due Date: August 1992

Research/Analysis Objectives:

Diarrhea remains a leading cause of mortality and severe morbidity in Africa. In many African countries, efforts to reduce mortality have focused on promoting oral rehydration therapy. Recent evidence, however, from the International Center for Diarrheal Diseases, Bangladesh (ICDDR, B), suggests that non-dehydration complications count for a large number of deaths, particularly in children between 1-4 years of age. These findings stress the need for a clear assessment of the most common causes of diarrhea-associated deaths to refine child survival strategies. In spite of this need, the causes and risk factors associated with severe diarrhea-associated illness and subsequent death among African children are largely unknown. The objectives of this study were to determine the clinical, epidemiologic, and laboratory characteristics of children with severe diarrhea-associated illnesses, and to identify risk-factors associated with the development of severe illness through the collection of detailed information.

****

Title of Analytical Activity:	Case management of diarrhea--Burundi
Type of Analytical Activity:	Clinic based study of the etiology and clinical findings at presentation of persons with bloody diarrhea.
Funding Level:	
Starting Date:	Concept for study developed during October and November 1989. Study conducted during October and November 1990.
Principal Investigator /Implementing Organization:	Dr. Allen Ries/Dr. Maye Olivola/Dr. Joy Wells Dr. Marcelline Ntakibira, Burundi Ministry of Health TSD/IHPO, Enteric Diseases Branch Division of Bacterial and Mycotic Diseases Centers for Disease Control (CDC).
Expected Final Product:	Manuscript; interim recommendations to Burundi Ministry of Health for preventions and treatment of dysentry; plans for further study.
Final Product Due Date:	Manuscript due March 1992; interim recommendations communicated to MOH, September 1991; plans for further study developed during October 1991 TDY

Research/Analysis Objectives:

Bloody diarrhea, also known as dysentry, is a major public health problem in Burundi. The objectives of this initial study were to identify the causative organisms and determine the sensitivity of these microorganisms to the recommended antibiotic treatment. *Shigella* species were isolated from over 70% of cases, and the predominant organism was resistant to all oral antibiotics available in Burundi. The Burundi Ministry of Health has initiated several activities as a result of this study including follow-up of patients enrolled in the study to determine the rate of death in persons with dysentry, a public health campaign to promote handwashing to prevent dysentry, and consideration of alternative treatment strategies. Studies to determine more precisely the mortality and morbidity attributable to dysentry and to continuously monitor antimicrobial resistance were developed as direct results of this study.

****

Title of Analytical Activity:	Cereal-Based oral rehydration therapy--CAR
Type of Analytical Activity:	Comparison of three hydration solutions in children with diarrhea but no signs of dehydration.
Funding Level:	$32,500
Starting Date:	Project design begun in September 88, numerous revisions during 1989, data collection March 90 through June 90, preliminary data analysis completed December 1990.
Principal Investigator /Implementing Organization:	IHPO/Centers for Disease Control (CDC), and the Ministry of Health of CAR (actual PI has changed on multiple occasions, Jim Kahn, Scott Endsley, Maye Olivola, Stephen Redd). CAR PI's have included Dr. Badgimo, Dr. Yaya, Dr. Roungou
Expected Final Product:	Manuscript, recommendations for home case management of diarrhea.
Final Product Due Date:	Recommendations for home case management made in 1991 based on preliminary analysis data, manuscript expected to be submitted to clearance by June 1992.

Research/Analysis Objectives:

This study was designed to test and compare 3 potential home fluids for the management of diarrhea at home. The three fluids were ORS, a maize-based broth with added salt,

and a maize-based broth without added salt. Outcomes that were assessed included weight gain 3 weeks after entry into the study, percentage dehydration on the first three days after enrollment in the study, number of stools per day after enrollment and duration of diarrhea. Preliminary analyses indicated that ORS was superior in terms of weight gain, and minimizing the percentage dehydration after enrollment. The broth with added salt was nearly as good as ORS, and the broth without added salt was inferior.

****

Title of Analytical Activity:	Diarrheal Training Unit (DTU)/Oral Rehydration Treatment Unit (ORTU) Evaluations - Swaziland and Cote d'Ivoire
Type of Analytical Activity:	Multi-method assessment of the process, outcome and impact of training activities carried out through DTU's
Funding Level:	$12,000
Starting Date:	January 1990
Principal Investigator /Implementing Organization:	Ann Voigt/Jennifer Bryce/Lisa Lee TSD/IHPO Centers for Disease Control
Expected Final Product:	Generic Protocol for the Evaluation of DTU's suitable for adaptation to specific country contexts. Report of analytic work submitted for publication in a peer-reviewed professional journal (expected by December 1992).
Final Product Due Date:	September 1992

Research/Analysis Objectives:

The purpose of this activity is to develop a protocol for the evaluation of Diarrheal Training Units. The protocol has been drafted, field tested in collaboration with the Swaziland Ministry of Health, and is now undergoing revision in preparation for a second field test scheduled for Cote d'Ivoire in the Spring of 1992. The final protocol will be: (1) suitable for implementation by Ministry of Health staff in developing countries; (2) designed to yield information useful for the continuing improvement of the DTU program; and (3) based on the use of multiple methods.

****

Title of Analytical Activity: Early Childhood Mortality among Women Presenting to the Castors Maternity in Bangui, Central African Republic

Type of Analytical Activity: Documentation and Analysis of Preceding Birth Mortality

Funding Level:

Starting Date: May 1991

Principal Investigator /Implementing Organization:

Scott Endsley, M.D.
Preventive Medicine Resident
International Health Program Office
Centers for Disease Control
Atlanta, GA

Expected Final Product: Description and Analysis of Preceding Birth Technique as applied a maternity clinic of Bangui.

Final Product Due Date:

Research/Analysis Objectives:

The goal of this study was to test the feasibility of the preceding birth techniques for measuring child mortality trends using maternity clinic populations.

Specifically, the study was aimed to describe mortality for preceding children of mothers at the Castors maternity, and derive corresponding age-specific mortality levels based on assumptions of the preceding birth technique. Second, the study will provide details on the relationship between preceding child mortality and maternal characteristics such as age, parity, and birth interval.

A total of 1561 women, 1020 of whom had had preceding births were interviewed over 3 months. Preliminary results showed a preceding birth index of 73 per 1000 live births, the proportion of preceding live-born singletons dead at the time of the antenatal visit.

****

Title of Analytical Activity: Refinement of the Facility-Based Assessment Method as a Strategy for Assessing the Quality of Care

Type of Analytical Activity: Repeated applications of the facility-based assessment method as a tool for needs assessment and evaluation in health programs.

Funding Level: $26,500

Starting Date: October 1989

Principal Investigator /Implementing Organization: Jennifer Bryce/Ann Voigt/Others
TSD/IHPO
Centers for Disease Control

Expected Final Product: Generic manual for conducting facility-based assessment surveys.

Methodological article for publication in peer-reviewed professional journal (Manuscript accepted by Health Policy and Planning for publication in June 1992).

Final Product Due Date: December 1992

Research/Analysis Objectives:

The facility-based assessment (FBA) method has been used in most CCCD countries to assess training needs, and in several countries to evaluate the impact of training on health worker performance. The specific areas assessed using this method have included diarrhea and fever case management, immunization practices, family planning, and most recently, the management of sexually transmitted diseases. The basic FBA method includes five components: (1) observations of health workers; (2) interviews with patients; (3) interviews with providers; (4) an inventory of facility resources and supplies; and (5) a review of facility records. The method has proved extremely valuable in providing useful data for the program managers and in documenting changes in performance. Outstanding issues that need to be addressed include the feasibility of the method, the advantages and disadvantages of facilities vs clients as the sampling unit, and the need for clear definition of the respective roles of one-time and repeated assessments vs effective and ongoing supervisory mechanisms.

****

Title of Analytical Activity: Preceding Birth Mortality among Women Presenting to Two Clinics in Bujumbara, Burundi

Type of Analytical Activity: Documentation and Analysis of Preceding Birth Mortality in Antenatal and Maternity Clinics

Funding Level:

Starting Date: March 1990

Principal Investigator /Implementing Organization: Michael Deming, M.D., M.P.H.
International Health Program Office
Centers for Disease Control

Expected Final Product: Description and Analysis of Preceding Birth Techniques as applied in two urban clinics of Burundi.

Final Product Due Date:

Research/Analysis Objectives:

The aim of this study was to test the feasibility of the preceding birth technique for monitoring child mortality trends using antenatal and maternity clinic populations.

Specifically, the study aimed to describe mortality for preceding children of mothers at Swaziland antenatal clinics, and derive corresponding age-specific mortality levels based on assumptions of the preceding birth technique.

A total of 1105 women, 736 of whom had had preceding births, were interviewed at the maternity site. 1014 women, 745 of whom had had preceding births, were interviewed at the prenatal site. Preliminary results showed a preceding birth index of 148 per 1000 live births, the proportion of preceding live-born singletons dead at the time of antenatal visit.

****

Title of Analytical Activity: Preceding Birth Mortality among Women Presenting to Antenatal Clinics in Rural and Urban Swaziland

Type of Analytical Activity: Documentation and Analysis of Preceding Birth Mortality 5 Antenatal Clinics

Funding Level:

Starting Date: April 1990

Principal Investigator /Implementing Organization: Rudolf Tangermann, M.D.
Preventive Medicine Resident
International Health Program Office
Centers for Disease Control

Expected Final Product: Description and Analysis of Preceding Birth Techniques as applied in the antenatal clinics of Swaziland.

Final Product Due Date:

Research/Analysis Objectives:

The aim of this study was to test the feasibility of the preceding birth technique for monitoring child mortality trends using antenatal clinic populations.

Specifically, the study aimed to describe mortality for preceding children of mothers at Swaziland antenatal clinics, and derive corresponding age-specific mortality levels based on assumptions of the preceding birth technique.

A total of 1262 women, 836 of whom had had preceding births were interviewed at 5 sites. Preliminary results showed a preceding birth index of 87 per 1000 live births, the proportion of preceding live-born singletons dead at the time of the antenatal visit.

****

Title of Analytical Activity:	Cost for implementing a Continuing Education System
Type of Analytical Activity:	Analysis of the cost it takes to implement a continuing education system at the state level once developmental costs have been finished.
Funding Level:	$5,000
Starting Date:	January 1992
Principal Investigator /Implementing Organization:	Annie Voigt/Deb McFarland/Anu Adegoroye TSD/IHPO/Centers for Disease Control (CDC)
Expected Final Product:	Report to the Federal Ministry of Health as to actual costs of starting a state continuing education program
Final Product Due Date:	July 1993

Research/Analysis Objectives:

The purpose of this activity is to furnish information to the Federal Ministry of Health on the cost of starting and maintaining a continuing education unit at the state level. Nigeria has 30 states. Continuing Education Units have been started in three of the states. Requests are coming from other states about how they can implement this activity.

****

Title of Analytical Activity: Strengthening health worker performance through supervision

Type of Analytical Activity: Focus Group studies of health workers and supervisors to determine desired behaviors in supervisors that will support and motivate health workers in their jobs.

Funding Level: $22,500

Starting Date: December 1991

Principal Investigator /Implementing Organization: Annie Voigt et al.
TSD/IHPO/Centers for Disease Control (CDC)
Atlanta, GA 30033

Dr. Parakoyi or Dr. Imade
FMOH, Nigeria

Expected Final Product: Summary report of focus group findings. Results to be used to strengthen supervisory systems.

Final Product Due Date: July 1993

Research/Analysis Objectives:

The purpose of this activity is to provide information on behaviors both health workers and supervisors perceive to be effective for supervisors that will encourage and motivate health workers in their daily activities. This information will be used to assist supervisors to adopt more effective behaviors.

****

Title of Analytical Activity: Clinic-based Method for Measuring Child Mortality

Type of Analytical Activity: Pilot study on feasibility of incorporating questions on the survival of preceding births into routine maternal assessment and by midwives in maternity clinics, Lome, Togo.

Funding Level: $4,700

Starting Date: January 1990

Principal Investigator /Implementing Organization:

Professor Assimadi
Pediatrics Department
University Hospital
Lome, Togo

Michael Toole
TSD/IHPO/Centers for Disease Control (CDC)

Expected Final Product:

(1) Adapted routine assessment form for maternity clinics
(2) Regular estimates of under-2 mortality rates for Lome

Final Product Due Date: June 1992

Research/Analysis Objectives:

(1) Estimate current under-2 mortality in Lome
(2) Follow trends of under-2 mortality in Lome
(3) Establish feasibility of routine use of preceding birth technique in maternity clinics.

****

Title of Analytical Activity: Village-wide trial of insecticide-impregnated bed nets and curtains

Type of Analytical Activity: Operational research field trial in western Kenya in a population that has been statistically selected.

Funding Level: $200,000

Starting Date: March 1991

Principal Investigator /Implementing Organization:

Dr. Aggrey James Oloo
Kenya Medical Research
Institute/Kisumu

Co-investigators
Dr. Trenton Ruebush
Dr. Raymond Beach
Dr. John Sexton
Div. of Parasitic Diseases
Centers for Disease Control

Expected Final Product: A determination on whether the community-wide use of impregnated bed nets and curtains are culturally acceptable and/or effect malaria transmission and vector behavior and ecology.

Final Product Due Date: March 1992. Extension proposal for one year submitted

Research/Analysis Objectives:

Research objectives include:
Evaluation involves using a cultural questionnaire that has been field tested as well as scientifically based techniques to measure malaria incidence, prevalence, and changes in vector behavior.

1. Measure malaria incidence and prevalence, episodes of clinical malaria, anemia and splenomegaly before, during and after the installation permethrin-impregnated bed nets/curtains.

2. Measure changes in vector behavior (house entry, exiting, resting, feeding, mortality and sporozoite rates).

3. Monitor the vector susceptibility and the residual effect of the pyrethroid used to impregnate the nets/curtains.

4. Evaluate residents knowledge, attitude and practices concerning malaria and their acceptance and compliance in using impregnated bed nets and curtains over the course of the trial.

****

Title of Analytical Activity: The impact of tetanus toxoid coverage, tetanus antitoxin seroprevalence and vaccine wastage of vaccinating eligible women of childbearing age at every health facility contact, Togo.

Type of Analytical Activity: Demonstration trial in which baseline and follow-up results in an intervention district will be compared with those in a control district.

Funding Level:

Starting Date: July 1989

Principal Investigator /Implementing Organization: Dr. Michael Deming
International Health Program Office
Centers for Disease Control

Expected Final Product: Report and manuscript for publication

Final Product Due Date: June 1993

Research/Analysis Objectives:

The policy of vaccinating eligible women of childbearing age at every health facility contact has been recommended for several years by the World Health Organization, but is not widely implemented in many African countries. The purpose of this study is to provide data on the effectiveness of the policy in increasing coverage and on its cost in term of vaccine wastage and increased work load. The impact on tetanus antitoxin seroprevalence is also being measured, in addition to tetanus toxoid coverage, because of difficulty in measuring tetanus toxoid coverage accurately. The study will provide ministers of health and national EPI directors with data for deciding what priority to attach to the policy. If the results of the study show that the policy is effective and affordable, they can be used to promote its wider implementation.

The study is being conducted in the same intervention and control districts as the study of the impact of vaccinating eligible children at all health facility contacts.

****

Title of Analytical Activity: Comparison of the immunogenicity of AIK-C and high-titer Edmonston Zagreb vaccine at 4 months of age with that of medium-titer and high-titer Edmonston Zagreb vaccine at six months of age.

Type of Analytical Activity: Randomized, prospective trial

Funding Level:

Starting Date: June 1990

Principal Investigator /Implementing Organization: Dr. Felicity Cutts
London School of Hygiene and Tropical Medicine

formerly with:
The Division of Immunization
Centers for Disease Control

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Expected Final Product: Report and manuscript for publication

Final Product Due Date: June 1992

Research/Analysis Objectives:

This study addresses key questions that must be answered to take full advantage of the discovery that Edmonston Zagreb (EZ) measles vaccine produces higher seroconversion rates than Schwartz strain in children younger than nine months. The study will determine to what extent dose (as opposed to strain) is responsible for the immunogenicity of EZ vaccine at six months of age. Second, it will show if high-titer EZ vaccine produces acceptable seroconversion rates when given at four months of age with that of high-dose EZ vaccine at four months of age. The final results pending.

****

Title of Analytical Activity: The comparative immunogenicity of high-titer Edmonston Zagreb (EZ) measles vaccine at six months of age from two manufacturers, and of Schwarz measles vaccine at nine months of age, Adidjan, Cote d'Ivoire.

Type of Analytical Activity: Prospective, randomized trial

Funding Level:

Starting Date: October 1990

Principal Investigator /Implementing Organization: Dr. Bernard Moriniere
Division of Immunization
Centers for Disease Control

Expected Final Product: Manuscript for publication

Final Product Due Date: June 1992

Research/Analysis Objectives:

This study was conducted simultaneously with the study of the immunogenicity of a fourth dose of polio vaccine, and in the same children. Its purpose is to provide an additional comparison, in an African country, of the immunogenicity of high-titer EZ vaccine at six months of age. In addition, the study compares the immunogenicity of high-titer EZ vaccine from two manufacturers -- the Institute of Immunology, Zagreb, and the Swiss Serum Institute, Switzerland. Final results are pending.

****

Title of Analytical Activity: The impact on measles morbidity and mortality of administering medium-titer Edmonston-Zagreb measles vaccine at six months of age and of measures to increase vaccination coverage, Kinshasa, Zaire

Type of Analytical Activity: Demonstration trial

Funding Level:

Starting Date: September 1989

Principal Investigator /Implementing Organization: Dr. Felicity Cutts
London School of Hygiene and Tropical Medicine

formerly with:
The Division of Immunization
Centers for Disease Control

Expected Final Product: Report and manuscript for publication

Final Product Due Date: September 1992

Research/Analysis Objectives:

The purpose of this study is to demonstrate the reduction in measles morbidity and mortality that can be achieved in a large urban population in sub-Saharan Africa by changing the measles vaccination schedule from Schwarz vaccine at nine months to medium-titer Edmonston-Zagreb vaccine at six months and taking all affordable steps to increase vaccination coverage. Prior to the study, approximately one-third of reported measles patients in Kinshasa were children less than nine months of age, the age at which Schwarz vaccine is given. The study will not determine the relative importance of each intervention applied. However, it will demonstrate the overall impact on measles of applying a package of interventions that could be applied in other cities.

****

Title of Analytical Activity: The impact on vaccination coverage and vaccine wastage of vaccinating eligible children at every health facility contact, Togo

Type of Analytical Activity: A demonstration trial in which baseline and follow-up results in an intervention district will be compared with a control district

Funding Level:

Starting Date: July 1989

Principal Investigator /Implementing Organization: Dr. Michael Deming
International Health Program Office
Centers for Disease Control

Expected Final Product: Report and manuscript for publication

Final Product Due Date: June 1993

Research/Analysis Objectives:

The policy of vaccinating eligible children at every health facility contact has been recommended for several years by the World Health Organization, but is not widely implemented in many African countries. The purpose of this study is to provide data on the effectiveness of the policy in increasing coverage and on its cost in terms of vaccine wastage and increased work load. The study will provide ministers of health and national EPI directors with data for deciding what priority to attach to the policy. If the results of the study show that the policy is effective and affordable, they can be used to promote its wider implementation.

****

Title of Analytical Activity: A comparative trial of a supplemental dose of trivalent oral polio vaccine (OPV) or enhanced-potency inactivated polio vaccine (eIPV), administered with measles vaccine in children who have already received three doses of OPV

Type of Analytical Activity: Prospective, randomized trial

Funding Level:

Starting Date: October 1990

Principal Investigator /Implementing Organization: Dr. Bernard Moriniere
Division of Immunization
Centers for Disease Control

Expected Final Product: Manuscript for publication

Final Product Due Date: June 1992

Research/Analysis Objectives:

OPV has been less immunogenic in African children than in children in industrialized countries. The reasons for this finding, which constitutes an important obstacle to polio eradication, are not yet fully understood. One possibility for increasing polio seroconversion rates without requiring an additional vaccination visit is to give a fourth dose of polio vaccine (after three initial doses of OPV) at the time measles vaccine is administered. The purpose of this study is to compare polio seroconversion rates after three doses of OPV given in accordance with the World Health Organization's recommended vaccination schedule and: a) a dose of OPV with Edmonston Zagreb (EZ) measles vaccine at six months; b) a dose of eIPV with EZ vaccine at six months; c) a dose of OPV with Schwarz measles vaccine at nine months; or d) a dose of iIPV with Schwarz vaccine at nine months. The final results are pending.

****

Title of Analytical Activity:	Health Seeking Behaviors Study, Swaziland
Type of Analytical Activity:	Rapid assessment procedures were used to collect information needed to influence the policy development process for acute respiratory infections in Swaziland. Methods included individual and group interviews. Study respondents included mothers, male and female community members, healers and nurses.
Funding Level:	$27,000
Starting Date:	August 1990
Principal Investigator /Implementing Organization:	Ruth Wilson TSD/IHPO/Centers for Disease Control Ministry of Health Swaziland
Expected Final Product:	A report for policy makers that summarizes the research findings and presents their implications for ARI services delivery. The report will also identify needs for continued research into health behaviors related to ARI (Draft completed, 4/91) Article for publication in peer-reviewed professional journal (June 1992)
Final Product Due Date:	June 1992

Research/Analysis Objectives:

The objectives of the research were: (1) to provide qualitative and quantitative data on health seeking practices, related to both ARI and other primary health care needs; and (2) to gather information needed to set policy and design programmatic interventions for ARI.

****

Title of Analytical Activity:	Mothers' Perceptions, Beliefs, Practices Relative to CDD/ARI-Burundi
Type of Analytical Activity:	Twenty-two focus groups were conducted with Burundian women with a child or grandchild under the age of five in urban and rural provinces of Burundi.
Funding Level:	$11,500
Starting Date:	July 1989
Principal Investigator /Implementing Organization:	Ruth Wilson TSD/IHPO Centers for Disease Control Ministry of Health Burundi
Expected Final Product:	A report that serves both as a summary of findings and a manual on focus group methodology (completed May 1990) Article for publication in peer-reviewed professional journal (March 1992)
Final Product Due Date:	March 1992

Research/Analysis Objectives:

The objectives of the activity were both to determine baseline beliefs, practices and customs associated with caring for children with acute respirator infection and diarrhea in Burundi and to train Burundi health personnel in the use of focus group methods.

****

Title of Analytical Activity:	Policy Ethnography for Family Planning, Cote d'Ivoire

Type of Analytical Activity: This was a qualitative study that explored perceptions about family planning in Abidjan, Cote d'Ivoire. Ethnographic interviews were conducted with three groups of respondents: (1) policy makers; (2) health service providers; and (3) present or future users of maternal/child health and family planning services.

Funding Level: $37,500

Starting Date: January 1991

Principal Investigator /Implementing Organization:

Ruth Wilson
TSD/IHPO
Centers for Disease Control

S. Darret/ K. Kale
Ministry of Health and Social Protection
Cote d'Ivoire

Expected Final Product: A report for policy makers (in French and English) that summarizes the research findings and presents their implications for the integration of family planning and public health services. (Draft completed, 12/91)

Article for publication in peer-reviewed professional journal (March 1992)

Final Product Due Date: March 1992

Research/Analysis Objectives:

The objectives of the policy ethnography were: (1) to provide information to governmental officials about potential challenges to the integration of family planning services into public health sector health services; (2) to suggest strategies for addressing these challenges based on the analysis of data from policy makers, service providers and users of family planning services; (3) to identify themes in urban Ivoirian life that are supportive of child spacing and that may be incorporated into public health service programs.

HIV/AIDS PREVENTION IN AFRICA (HAPA) PROJECT

Title of Analytical Activity: Burundi: Interventions with High-Risk

Type of Analytical Activity: Sexual Intervention

Funding Level: Field Cost $ 38,694
Total Cost: $109,000

Starting Date: September 1, 1991

Principal Investigator /Implementing Organization: National AIDS Control Programme

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

To provide peer education targeting CSWs and their partners in two neighborhoods in Bujumbura.

To develop an educational campaign for seropositive persons in a rural area of the country.

****

Title of Analytical Activity: Epidemiologic Surveillance of HIV Infection in Burundi: Cohort Studies

Type of Analytical Activity: Surveillance and Modeling

Funding Level: Field Cost: $ 80,916
Total Cost: $166,585

Starting Date: March 1, 1989

Principal Investigator /Implementing Organization: National AIDS Control Programme

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

- To monitor the incidence of HIV infection in three separate population groups (military and factory workers).
- To prevent HIV infection among these groups by providing HIV/STD education and condoms.

****

Title of Analytical Activity: Burundi: AIDS Modeling

Type of Analytical Activity: Surveillance and Modeling

Funding Level: Field Cost: $ 10,000
Total Cost: $ 66,386

Starting Date: November 28, 1991

Principal Investigator /Implementing Organization: Ministry of Health/Burundi

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

- To conduct computer modeling of the AIDS epidemic in Burundi, in order to project future number of infections, related social and economic costs and the effect of interventions.

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Title of Analytical Activity: Cameroon: Modeling of AIDS Epidemic

Type of Analytical Activity: Computer Modeling

Funding Level: Field Cost: $38,600
Total Cost: $62,500

Starting Date: February 15, 1989

Principal Investigator /Implementing Organization: USAID Africa Bureau/NACS

Expected Final Product: Final report

Final Product Due Date: January 31, 1992

Research/Analysis Objectives:

- To conduct computer modeling of the AIDS epidemic in Cameroon, in order to project future number of infections, related social and economic costs and the effect of interventions.

****

Title of Analytical Activity: Ghana Expanded Intervention with High Risk Groups

Type of Analytical Activity: Sexual Intervention

Funding Level: Field Cost: $ 50,000
Total Cost: $153,250

Starting Date: March 1, 1989

Principal Investigator /Implementing Organization: Public Health Reference Lab
Accra, Ghana

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

- Educate an additional 2,000 women about sexual transmission of HIV, the need to use condoms, and the need for early detection and treatment of STDs.
- Develop and implement a condom distribution system.
- Ensure these women access to affordable and appropriate services for STD treatment.
- Develop an educational outreach and condom distribution program for the partners of women.
- Consider cost recovery alternatives in order to promote program sustainability.
- Evaluate the impact of the program on AIDS knowledge, acceptance and use of condoms, and use of STD treatment facilities.

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Title of Analytical Activity: Kenya Intervention with High Risk Groups, Mombasa

Type of Analytical Activity: Sexual Intervention

Funding Level: Field Cost: $101,583
Total Cost: $125,625

Starting Date: August 1, 1991

Principal Investigator /Implementing Organization: Aga Khan Foundation

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

- Develop and implement an AIDS education and prevention program for STD clients.
- Develop and implement an outreach AIDS education and prevention program for women with multiple partners.
- Promote safer sex practices among the male partners of these women.
- Develop and implement an AIDS/STD education and prevention program in at least three work places.
- Develop and implement a condom distribution program.
- Evaluate the project.
- Plan for sustaining program activities.

****

Title of Analytical Activity: Zimbabwe HIV/AIDS Education and Condom Distribution Program in the Commercial Farming Sector

Type of Analytical Activity: Sexual Intervention

Funding Level: Field Cost: $32,540
Total Cost: $80,400

Starting Date: December 1, 1990

Principal Investigator /Implementing Organization: Commercial Farmers' Union of Zimbabwe

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

- Educate the Commercial Farmers' Union leadership about AIDS and gain a commitment for initiatives to prevent the spread of HIV infection.
- Involve the CFU's eight branch representatives to act as voluntary program coordinators for their respective branches.
- Plan and implement AIDS Awareness and Preventions Program in each of the CFU's eight branches.
- Educate the CFU's 4,500 farmers about the facts of AIDS/HIV.
- Establish model pilot programs for extensive AIDS prevention on at least one farm in each branch of the union.
- Initiate at least 1,000 on-farm education projects in each of the CFU's branches in year one of the project.
- Establish an effective condom distribution system in collaboration with the ZNFPC and ZNACP to supply 100% of the CFU farms.
- Evaluate program and plan for sustainability of activities.

****

Title of Analytical Activity: Regional Workshop of HIV Testing and Quality Assurance

Type of Analytical Activity: Blood/Laboratory

Funding Level: $81,164

Starting Date: December 12, 1991

Principal Investigator /Implementing Organization: AIDSTECH

Expected Final Product: Final report

Final Product Due Date: December 31, 1991

Research/Analysis Objectives:

Conduct two regional workshops for Quality Assurance in HIV testing to plan and write proposals for National Quality Assurance programs.

****

Title of Analytical Activity: Examination of Direct Costs of Treating and Preventing AIDS in Malawi

Type of Analytical Activity: Health Care Finance

Funding Level: Field Cost: $30,000
Total Cost: $69,700

Starting Date: October 16, 1990

Principal Investigator /Implementing Organization: Malawi Ministry of Health

Expected Final Product: Final report

Final Product Due Date: September 15, 1992

Research/Analysis Objectives:

- Measure the costs that AIDS currently imposes on hospitals and project resource requirements for treating AIDS patients over the next five years.
- Estimate the total financial burden that AIDS currently imposes on the health system.
- Estimate the budgetary requirements for treating AIDS patients over the next five years, taking into account epidemiological projections and accessibility of health services to AIDS patients.
- Assess patient out-of-pocket treatment costs.
- Determine the costs of planned or implemented prevention activities.
- Project the relative costs of alternative scenarios for treating and preventing AIDS in Malawi.
- Assist in setting resource allocation priorities in regard to national AIDS treatment and intervention programs.
- Develop policy and program recommendations which specify the opportunity costs of AIDS treatment programs and alternative strategies for reducing these costs.

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Title of Analytical Activity: HIV/AIDS Surveillance Data Base

Type of Analytical Activity: Compilation of HIV data for African countries from medical and scientific literature, professional papers, official statistics, State Dept. cables, data from international organizations, data presented at international conferences, and newspapers and magazine articles.

Funding Level: $565,000 (Estimate of portion of total funding from the Africa Bureau/AID for the data base activities.)

Starting Date: July 1987
Final Product Due Date: September 1993

Expected Final Product:

Periodic updates of the data base and program files on microcomputer diskettes.
Listings of significant new data obtained, by country (e.g., from a major international conference).
Brief analysis of the new epidemiological data provided, which describes significant new findings and emerging trends suggested or identified by the newly acquired information.
Reference binder with printout of data for each country (in alphabetical order), regional summary tables of the HIV surveillance data, executive summary of major trends, and graphs and maps highlighting the data (updated twice a year).
Briefing materials highlighting interesting information on specific countries with graphics and brief text.

Principal Investigator/ Implementing Organization:

Health Studies Branch
Center for International Research
Bureau of the Census

Research/Analysis Objectives:

Monitor and analyze the spread of HIV infection and AIDS in Africa and to provide that information to appropriate policy makers, researchers, etc. to use to further project goals, guide the direction of program implementation, and assist in the evaluation of program effectiveness.

MISCELLANEOUS HEALTH

Title of Analytical Activity: Development of a community based malaria control intervention using insecticide impregnated bed nets in coastal Tanzania.

Type of Analytical Activity: Malaria control program using education and social marketing to promote the use of impregnated bed nets with detailed malariometric and entomological evaluation. Conditions for sustainability will be investigated and defined.

Funding Level: Two million dollars

Starting Date: September 25, 1990

Principal Investigator /Implementing Organization:
Dr. Clive J. Shiff, PhD
Department of Immunology and Infectious Diseases
Johns Hopkins University
in collaboration with
The Institute for Public Health, Muhimbili
University College for Health Science
University of Dar es Salaam, Tanzania

Expected Final Product: A self sustained program for the control of malaria within the communities of the Bagamoyo District. The results will be published in the literature and in a major book.

Final Product Due Date: October 1, 1994

Research/Analysis Objectives:

To develop a community based program for the promotion, distribution and implementation of a malaria control intervention using insecticide impregnated bed nets.

To evaluate the acceptability of the intervention, to assess its impact on the transmission and incidence of malaria and on child mortality due to malaria infections.

To determine means for local sustainability of the program.

EDUCATION AND HUMAN RESOURCES

Title of Analytical Activity: Overview of bilateral basic education programs in Africa.

Type of Analytical Activity: Information dissemination effort

Funding Level:

Starting Date: September 1990
Final Product Due Date: January 1992

Expected Final Product: Final document will contain an introductory essay providing the background to the Bureau's involvement in basic education, including Congressional earmarks, WCEFA, etc., and future directions. Separate sections for each of 10 bilateral programs will include:

- Title
- Project number
- Dates of authorization and completion
- Funding level
- Implementing agencies
- Contractor
- Background
- Purpose and objectives
- Activities
- Other donors in basic education
- Documents consulted

Principal Investigator/ Implementing Organization: Advancing Basic Education and Literacy (ABEL) buy-in. Laurie Owens and Francy Hayes, AED.

Participation of Africans: None since it is a description of USAID programs. Mission input being received for individual country write-ups.

Research/Analysis Objectives:

To provide ARTS with a document summarizing current Bureau involvement in basic education in a form conducive to the preparation of briefing materials. It will also be used for outreach beyond the Bureau and Agency.

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Title of Analytical Activity:	National Education Policy Formation Study
Type of Analytical Activity:	Study of the education policy formation process, particularly the use of public dialogue approaches in National Commissions or Etats Généraux.
Funding Level:	$24,000
Starting Date:	June 1991
Final Product Due Date:	June 1992
Expected Final Product:	a) Analytic histories of the policy formulation processes and mechanisms in the following countries, carried out as desk studies: Botswana, Mali, Senegal, Tanzania and Uganda; b) A summary analysis and conclusions; c) A preliminary set of recommended guidelines for mechanisms and procedures to formulate national educational policies.
Principal Investigator/ Implementing Organization:	David Evans, University of Massachusetts at Amherst.
Participation of Africans:	Two of the case studies are being written by Africans, and another with considerable input from an African scholar. The expatriates writing the other case studies are individuals with considerable experience in those countries.

Research/Analysis Objectives:

The overall objective is to enhance the Bureau for Africa's understanding of the processes and mechanisms used for education policy formulation in order to strengthen the Bureau's work in sectoral reform. Of particular interest is the ways in which public participation can be enhanced.

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Title of Analytical Activity: Africa Education Database

Type of Analytical Activity: Database development and analytic discussion of international indicators and their cross-national comparability.

Funding Level: $20,000

Starting Date: October 1990
Final Product Due Date: Completion of phase 1, January 1992

Expected Final Product:

a) A country sheet on each of the Sub-Saharan countries, providing a statistical characterization of their education system's performance.

b) A single Lotus spreadsheet containing all of these data, with countries as rows and indicators as columns as well as means and medians for indicators and for selected groups of countries.

c) Paper discussing the validity and accuracy of various indicators, particularly how statistics are perceived within developing countries. The paper will also discuss relationships between indicators, identifying patterns in the region and outliers warranting further examination.

Principal Investigator/ Implementing Organization: Margaret Sutton, Academy for Educational Development (IQC delivery order). BUCEN will assist in integrating database into the Africa Bureau databases.

Participation of Africans: No direct participation. Original data sources are African governments through UNESCO, UNDP, and the World Bank.

Research/Analysis Objectives:

To establish a basic database of education indicators from public data sources. Includes both quantitative and qualitative variables. The database will be organized according to basic education indicators, educational system indicators, and socio-economic context indicators.

****

Title of Analytical Activity: Policy Contexts Database

Type of Analytical Activity: Development of a qualitative database of indicators for all African Countries (beginning with countries having NPA programs.

Funding Level: $25,000

Starting Date: November 1991
Final Product Due Date: May 1992

Expected Final Product: A qualitative database with discussion of the technical aspects of the indicators, relationships between indicators, identifying patterns in the region and issues warranting further examination.

Principal Investigator/ Implementing Organization: To be determined. Margaret Sutton, AED (initial work through IQC).

Participation of Africans: None

Research/Analysis Objectives:

The database will include indicators measuring status and trends of policies, institutional practices, host-country interventions, and other qualitative factors associated with an effective, efficient, equitable, and sustainable basic education system. The indicators will assist AFR/ARTS track changes related to the policy and program goals of active NPA basic education programs in Africa. For example, these indicators will examine and track:

- Gender policies and practices;
- Extent of private/family participation in education;
- Presence of equity improvement interventions;
- Distribution of authority and accountability;
- Degree of decentralization in management and/or financial decisions;
- Examination/assessment practices;
- Use of information for planning and management.

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Title of Analytical Activity: Basic Education Indicator Guidance Report

Type of Analytical Activity: Analytic report offering guidance.

Funding Level:

Starting Date: December 1991
Final Product Due Date: May 1992

Expected Final Product: Guidelines report

Principal Investigator/ Implementing Organization: To be determined

Participation of Africans: Mission input; consultations with host country governments; consideration of deliberations of various forms in Africa on indicators.

Research/Analysis Objectives:

To provide guidance on new basic education indicators for overall mission strategy in basic education and project/program design. To ensure that these indicators are easily implemented and designed to directly facilitate improvements in student learning, equity of access to quality schooling, and sustainability of qualitative improvements.

ANNEX M

R&D PORTFOLIO

DESCRIPTION OF THE HPNE PORTFOLIO OF THE BUREAU FOR RESEARCH AND DEVELOPMENT

The project is designed to utilize the technical resources and expertise of current HPNE projects within the Research and Development (R&D) Bureau. It is estimated that approximately 80 percent of the research and analytical activities of the HHRAA project could be undertaken by R&D projects, and as can be observed from Exhibit E-1 (located at the end of this annex), sufficient ceilings exist on most projects for buy-ins and OYB transfers for analytic activities.

A. The R&D Portfolio

1. Population

Projects in the R&D Bureau's Office of Population (R&D/POP) are designed to strengthen assistance to family planning programs worldwide; however, increasing preference is being given to support for programs in sub-Saharan Africa. Greater emphasis is also being placed on the use of the tools of analysis and management to improve planning, monitoring, and evaluation.

The projects carried out by R&D/POP fall into two broad categories: 1) those which support family planning service delivery, approximately 75 percent of the Office's activities; and 2) research to strengthen future efforts, which accounts for the remaining 25 percent. Research activities include: biomedical research on improved methods of contraception; operations research to improve the organization and management of service delivery systems; and social science and demographic research to increase knowledge of population dynamics, provide improved information on fertility status and reproductive knowledge and behavior, improve the collection and analysis of demographic data, and develop better methodologies for evaluating and measuring the impact of family planning programs.

Three R&D projects are of particular relevance for this project: 1) the Operations Research (OR) program, where the Population Council (the current contractor for Africa) collaborates with African researchers and family planning service providers, in both the public and private sectors, in analyzing alternative approaches for improving the organization and delivery of family planning services; 2) the Demographic and Health Surveys (DHS) project which has conducted surveys of contraceptive knowledge, availability and use in 12 African countries in the last five years. Six additional sub-Saharan countries will conduct these surveys in the next five years; 3) a new project, the Evaluating Family Planning Program Impact (EFPPI), which will focus on developing program indicators and improving the measurements of

family planning program performance. The project will seek to strengthen evaluation activities within existing projects, provide training to U.S. and Third Country staff, conduct research and field studies and develop and disseminate materials. It is also expected to advance significantly the methodology for evaluating family planning impact and to strengthen the capacity of existing evaluation systems.

In addition to projects primarily focused on research, studies and analyses are carried out by service delivery, training, and policy projects whose primary purposes are to:

- expand the development of, access to, and use of quality family planning services (Family Planning Service Expansion and Technical Support-SEATS);
- strengthen the leadership and management of public and private family planning programs (Family Planning Management Development);
- strengthen the training capacities of developing country institutions (Program for International Training in Health-INTRAH);
- strengthen population policy analysis (Resources for Awareness of Population Impacts on Development-RAPID);
- improve developing country policy-makers' use of population information and research findings (Options for Population Policy-OPTIONS); and
- examine and develop policy options that will help developing countries to improve the financial viability of their health systems and increase public and private investments in the health sector. (Health Financing and Sustainability).

Twenty seven African countries received research and analytic support under centrally funded contracts from the Office of Population from 1987 - 1990 and mission programs in 16 countries bought into/added onto R&D projects during this same period. Exhibit E-2 provides a list of population project research activities in Africa supported by central and or mission funds.

2. Health

The Office of Health's projects have focused on increasing the dissemination of available technologies and fostering the development of new and improved technologies for reducing morbidity and mortality primarily among infants, children, and other high

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risk groups. The Office manages the Agency's central support for the design, implementation, and evaluation of such activities as maternal and child health, water and sanitation, AIDS prevention, tropical disease control, health commodities production, health financing, and health information and communication. It carries out its responsibilities through research, technical support to the field, and technical coordination and representation.

Research and analysis projects in the Office of Health focus on:

- technology development such as malaria vaccines, treatment for diarrheal disease, low cost child survival technologies (The Child Survival Actin Program-CSAP-Support Project, Technologies for Child Health-HEALTHTECH, and vaccine development projects);

- the conduct of operations, behavioral, and policy research such as testing approaches for introducing child survival technologies and testing ways of strengthening and institutionalizing quality of care in the delivery of child survival services (Technologies for Primary Health Care-PRITECH, Technology and Resources for Child Health-REACH, Applied Research in Child Survival Services-ARCCS);

- the conduct of demographic and health surveys (the Demographic and Health Survey Project which is jointly conducted with R&D/POP);

- maintaining health information databases (the Center for International Health Information).

A new Project, Data for Decision Making is of particular relevance to HHRAA. The Data for Decision Making Project will assist host country governments develop the capacity to use available data and information (from such sources as the Demographic and Health Surveys, management information systems, and epidemiologic surveillance), as a basis for sound decision making for the health, population and nutrition sector. The project is designed to work with USAID missions and ministerial level decision makers, senior executives, and program managers. The project will use a "top down and bottom up" strategy to improve capacity to make information based decisions and policies. Project activities will include improving information sources and the methods of analysis, interpretation and presentation and assisting decision makers to use information to determine their policy options, establish priorities and make choices.

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Research and analysis are also conducted to support health services projects whose purposes are to:

- improve health practices and behaviors (Communication for Child Survival-HEALTHCOM, Communication Strategies for the Prevention and Control of AIDS-AIDSCOM),

- improve pregnancy outcomes (Maternal and Neonatal Health Nutrition-MOTHERCARE), and

Eighteen African countries have conducted research, analysis, and information system development activities under central funding for health projects (Exhibit E-3).

3. Nutrition

Projects in the Office of Nutrition focus on three major areas: child survival and development, household food security and nutribusiness, and most include some research and analysis.

Research and analytic activities are a primary component of the Food and Nutrition Monitoring and Support Project. Activities include data collection, analysis and reporting on the current status and future trends in food security, and operations research on ways to improve household food security and integrate food and nutrition concerns into other sectoral activities.

Other analytic activities carried out by nutrition projects include:

- testing and evaluation of nutrition messages (Nutrition Education and Social Marketing Field Support),

- research and development of vitamin A and iron deficiency assessment techniques (Combatting Iron Deficiency, Vitamin A for Health Projects),

- research on key factors affecting nutrition of adolescent girls and reproductive aged-women (Women and Infant's Nutrition),

- assessments that better define malnutrition, improve nutritional standards, and test the feasibility of applying various technologies to increase the supply and distribution of commercial foods (Food Technology and Enterprise for Development).

4. Education

The Office of Education's program focuses on basic education including the first ten years of school, literacy, numeracy and life skills. Their projects address formal, non formal and early childhood education, and all include support activities in Africa. Research and analysis are carried out within many of the projects and they include formative and summative evaluations as well as comparative and cross-country studies of the effectiveness of different educational techniques.

The BRIDGES (Basic Research and Implementation in Developing Education Systems) is the Office's major research effort, and its purposes and design are similar to the HHRAA project. Its activities are focused on three areas: research reviews and the identification and synthesis of what is known about critical areas of education development; the design and implementation of cross national research studies, and dissemination and implementation of research findings by those interested in the development of education systems in third world countries. BRIDGES has produced a large number of papers, research reports, and microcomputer software packages. It has also issued a quarterly magazine, the Forum that features summaries of current research.

Other projects include:

- LEARNTECH (Learning Technologies for Basic Education), which involves the development, testing and dissemination of interactive radio and other learning technologies,

- Improving the Efficiency of Educational Systems (IEES) examines approaches to improve the management and efficiency of educational systems, and disseminates the best techniques.

A new project starting this fiscal year, (Improving Educational Quality), will conduct classroom level research on teaching practices. An Early Childhood Development Project, which will start in 1993, will be a Head Start type effort involving the participation of communities and mothers. The project will involve close collaboration with the Health, Nutrition and Women in Development (WID) offices, and will be a prototype of an intersectoral effort involving health, nutrition, and education.

B. Collaboration with African Institutions

Exhibit E-4 identifies HPNE projects with collaborative relationships with a wide range of African institutions including ministries, research institutes, non-governmental organizations (NGO) for-profit groups.

C. Implications of A.I.D.'s HPNE Portfolio for this Project

The HPNE offices of the R&D Bureau support a substantial amount of important research on population, health, nutrition, and education through centrally funded contracts and bilateral programs. These activities have contributed to:

- Collecting demographic and health information in a number of African countries and developing demographic and health survey capabilities in these countries;
- Expanding knowledge about attitudes affecting family planning and health behaviors;
- Developing appropriate technologies for providing family planning, health, and nutrition services;
- Providing support for field tests on the efficacy of various treatment technologies;
- Better information on effective educational techniques;
- Supporting pilot studies on the effectiveness of programmatic interventions;
- Developing databases and information systems; and
- Preparing publications on educational effectiveness, [illegible] survival, family planning etc.

New HPNE projects started in FY '92 will contribute to the development of better measures of family planning programs, improved linkages between data and decision making, better information on effective educational techniques and practices.

Although the R&D portfolio has had impressive accomplishments, these efforts have also had some important limitations in terms of the emphasis of the HHRAA project.

- The studies have focused on vertical programs and the Health, Population, Nutrition, and Education Offices have supported discrete studies to address critical issues related to the organization, management, delivery of services and better ways of reaching their targeted client groups. **In terms of the HHRAA focus, however, the research has not for the most part addressed how HPNE services can be delivered in a more integrated fashion.**

- Much of the research conducted has been primarily country or site specific. There have been very few comparative or cross-cutting studies that have examined delivery strategies across vertical programs, or in several countries. **Consequently, the results of many studies, though useful in the particular setting, have had limited utility across programs or countries and the findings of these studies have not been widely generalizable.**

- Much of the research has addressed discrete HPNE interventions (e.g. family planning methods, oral rehydration solutions, vitamin A deficiency, interactive radio instruction, etc.) and ways of improving the acceptability, efficiency and effectiveness of interventions provided through vertical programs. Policy analyses have also focused primarily on understanding and overcoming constraints to specific vertical programs. **The studies conducted under R&D projects have not met the need for analyses that can help determine how to better allocate resources among programs and between curative and preventive strategies.**

- The Health and Population Offices each support databases which, at a minimum, collect and report information on their projects. The Health database, managed by the Center for International Health Information also collects information on nutrition projects. A health database has also been developed by the Bureau of the Census (BUCEN) for the Africa Bureau under the FHI project. The project databases for HPN projects do not collect comparable information and there are areas of duplication between the BUCEN database and the one maintained for the Office of Health. A single standardized database for the HPNE programs in Africa would appear to be an important first step in improving the Bureau's ability to track HPNE investments and activities in sub-Saharan Africa. **An analysis of these databases needs to be conducted in conjunction with an analysis of ARTS information needs to determine the best system for meeting the Bureau's needs for information on HPNE sector activities.**

- Opportunities for secondary data analysis have not been widely exploited. The DHS surveys, for example, are a particularly rich source of data and the DHS project has only recently begun to draw on their extensive country data files for cross-cutting analyses. **In general the capability to produce data has exceeded the capacity to analyze data and apply its findings to planning and organizing more effective health services.**

- The presentation and dissemination of research findings have not been sufficiently emphasized, though a few of the new&D projects will redress this oversight. The studies have resulted in highly technical research reports that have been targeted more to researchers than policy makers or program staff. Too little attention has been given to presenting research results in formats that will lead to decisions by policy makers and program managers. In addition, research results have often been viewed as ends in themselves rather than means to strengthening programs, and too little attention has been given promoting the application and utilization of results. **The knowledge that has been gained by the extensive research efforts described earlier are therefore not being widely applied to improve policy or program decisions, allocate resources, or strengthen services.**

- Insufficient attention has been given to developing and strengthening country information systems for collecting, analyzing and reporting health information across vertical programs. Nor has much emphasis been given to developing and testing measures, measurement tools and techniques which could help strengthen in-country research and analyses capacities. **African HPNE managers and decision makers lack information that could help them make decisions about efficient ways to allocate limited resources.**

- Much of the research has been conducted by U.S.-based universities, cooperating agencies, and American researchers, though Africans have often been involved as collaborators. Where collaboration has occurred, however, more attention has been focused on the research effort--on study design, data collection and analysis--than on training local staff, transferring skills, and creating local capacities to conduct research and apply research findings. **Thus, most African countries have very limited capacities for analyzing trends, designing and implementing information systems, and conducting policy research.**

The HHRAA project can build on the impressive array of analytic activities undertaken by HPNE projects and utilize the considerable organizational and contractor talent involved in these projects.

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Annex M

BUY-IN CEILINGS AND OBLIGATIONS FOR CURRENT R&D HPNE PROJECTS[1]

Project	PACD	Buy-in Ceiling	Obligated	Remainder
HEALTH				
AIDS Technical Support (936-3023)	9/30/96	168,000,000	-----	-----
AIDSCOM	9/21/93	24,000,000	19,651,000	4,349,000
AIDSTECH	9/16/92	buy-in ceiling has been met	-----	-----
Demographic and Health Surveys (DHS) (936-3023)	8/30/93	26,048,000	22,548,000	3,500,000
Child Survival Action Program--SUPPORT (CSAP-Support) (936-5951)	9/30/95	6,475,000	2,789,000	3,686,000
Applied Diarrheal Disease Research (ADDR) (936-5952)	9/29/94	9,999,000	9,160,000	839,000
Technologies for Child Health (HEALTHTECH) (936-5968)	7/24/95	13,381,000	3,662,000	9,719,000
Applied Research in Child Survival Services (ARCSS) (936-5592)	9/20/95	4,700,000	1,700,000	3,000,000
Vector Biology and Control (VBC) (936-5948)	9/26/94	9,335,000	1,165,000	8,170,000

[1]The Obligated column includes funds obligated through FY90 and planned for FY91.

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Project	PACD	Buy-in Ceiling	Obligated	Remainder
Water and Sanitation for Health (WASH III) (936-5973)	3/31/98	24,632,000	14,813,000	9,819,000
Maternal and Neonatal Health Nutrition (MOTHERCARE) (936-5966)	9/29/93	13,522,000	5,356,000	8,166,000
Health Financing and Sustainability (HFS) (936-5974)	9/19/94	16,553,000	5,612,000	10,941,000
Technology and Resources for Child Health (REACH II) (936-5982)	9/28/93	12,481,000	6,969,000	5,512,000
MEDEX NURSECARE (936-5983)	9/30/94	1,500,000	-----	-----
Communication and Marketing for Child Survival (HEALTHCOM II) (936-5984)	8/30/94	32,050,000	7,316,000	26,734,000
Technology for Primary Health Care II (936-5969)	8/30/92	35,929,000	20,050,000	15,879,000
Data for Decision-Making in the Health Sector (DDM) (936-5991)	9/96	4,300,000	-----	4,300,000
POPULATION				
Family Planning Service Expansion and Technical Support - SEATS (936-3048)	7/10/94	43,466,000	23,109,000	20,357,000
Association for Voluntary Surgical Contraception - AVSC (936-3049)	8/23/93	80,000,000	42,665,000	37,335,000
Contraceptive Social Marketing II (936-3051)	9/29/93	32,988,000	24,758,000	8,230,000

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Annex M

Project	PACD	Buy-in Ceiling	Obligated	Remainder
Promotional Financial Investment and Transfers-PROFIT (936-3056)	9/96	no ceiling	-----	-----
Access to Family Planning Services through Third Women Managers (936-3059)	8/96	5,000,000	200,000	4,800,000
Family Planning Services - The Pathfinder Fund (936-3042)	9/30/92	67,000,000	63,567,000	3,433,000
Population and Family Planning Expansion - CARE (936-3058)	9/95	25,800,000	2,500,000	23,300,000
PAC Personnel IIb (INTRAH) (936-3031)	9/23/94	22,968,000	7,393,000	15,575,000
Training in Reproductive Health - JHPIEGO (936-3045)	4/30/92	55,182,000	34,368,000	20,184,000
Population Information Program (936-3032)	8/30/92	23,175,000	11,316,000	11,859,000
International Population Fellows Program - IPFP (936-3054)	9/15/95	6,609,000	836,000	5,773,000
Population Communications Services - PCS (936-3052)	7/15/95	60,000,000	9,590,000	50,410,000
Family Planning Management Development - FPMD (936-3055)	9/27/95	23,029,000	6,337,000	16,692.000
Demographic and Health Surveys - DHS (936-3023)	8/30/93	26,048,000	17,534,000	8,514,000
Evaluating Family Planning Program Impact	9/96	no ceiling	-----	-----

Annex M

Project	PACD	Buy-in Ceiling	Obligated	Remainder
Population Policy Initiatives - OPTIONS (936-3035)	9/27/95	12,813,000	4,779,000	8,034,000
Demographic Data Initiatives - RAPID IV (936-3046)	9/96	no ceiling	-----	-----
Family Health International (936-3041)	9/30/96	66,465,000	15,257,000	51,208,000
Population Council Programmatic Grant (936-3050)	8/25/93	37,000,000	19,238,000	17,762,000
Contraceptive Research and Development - CONRAD (936-3044)	3/30/93	30,000,000	24,318,000	5,682,000
Strategies for Improving Service Delivery (OR-Africa) (936-3030)	8/28/93	16,843,000	12,969,000	3,874,000
Natural Family Planning (936-3040)	9/95	17,500,000	1,500,000	16,000,000
Family Planning Logistics Management - John Snow, Inc. (936-3038)	8/30/95	20,009,000	6,401,000	13,608,000
NUTRITION				
Food and Nutrition Monitoring and Support (936-5110)	6/30/96	no ceiling	-----	-----
Nutrition Education and Social Marketing Field Support (936-5113)	9/29/93	10,500,000	4,000,000	6,000,000
Vitamin A for Health (936-5116)	9/30/95	9,626,000	1,085,000	8,541,000

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Project	PACD	Buy-in Ceiling	Obligated	Remainder
Women's and Infant's Nutrition (WIN): A Family Focus (936-5117)	9/30/99	10,000,000	-----	10,000,000
Combatting Iron Defidiency (936-5115)	9/30/92	no buy-ins	-----	-----
Food Technology and Enterprise (936-5120)	9/30/96	5,000,000	-----	-----
EDUCATION				
Advancing Basic Education and and Literacy (936-5832)	7/99	9,250,000	3,118,000	6,132,000
Basic Research and Implementation in Developing Education System (936-5824) BRIDGES	9/93 grant exp. 9/92	10,000,000	4,625,910	5,374,090
Clearinghouse on Development Communication II (936-5831)	6/94	no ceiling	-----	257,117
Improving Efficiency of Education Systems II (936-5823)	6/94	21,967,073	7,661,985	14,305,088
Narcotics Awareness and Education (936-5834)	7/95	11,914,923	2,380,798	9,534,125
Learning Technologies for Basic Education (LEARNTECH) (936-5818)	9/94	no ceiling	-----	-----
Improving Educational Quality (936-5836)	9/96	8,500,000	-----	8,500,000

R&D HPNE PROJECTS WORKING WITH AFRICAN INSTITUTIONS

Project	Types of African Institutions
HEALTH	
AIDS Technical Support (936-3023)	Ministries of Health, NGOs, private sector organizations, indigenous PVOs
Demographic and Health Surveys (DHS) (936-3023)	Ministries of Planning and Health, universities
Child Survival Action Program--SUPPORT (CSAP-Support) (936-5951)	Ministries of Health, and private sector organizations
Applied Diarrheal Disease Research (ADDR) (936-5952)	Universities, research institutes, Ministries of Health
Technologies for Child Health (HEALTHTECH) (936-5968)	Private sector organizations, private sector companies
Applied Research in Child Survival Services (ARCSS) (936-5592)	Ministries of Health
Vector Biology and Control (VBC) (936-5948)	Ministries of Health, universities, public health laboratories
Water and Sanitation for Health (WASH III) (936-5973)	Ministries of Health, NGOs
Maternal and Neonatal Health Nutrition (MOTHERCARE) (936-5966)	Ministries of Health, NGOs
Health Financing and Sustainability (HFS) (936-5974)	Ministries of Health and Finance, and public and private research organizations

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Technology and Resources for Child Health (REACH II) (936-5982)	Ministries of Health and Private Voluntary Organizations
MEDEX NURSECARE (936-5983)	Ministry of Health/Kenya
Communication and Marketing for Child Survival (HEALTHCOM II) (936-5984)	Ministries of Health, private sector and for profit organizations
Technology for Primary Health Care II (936-5969)	Ministries of Health, NGOs, for profit companies
POPULATION	
Family Planning Service Expansion and Technical Support - SEATS (936-3048)	Ministries of Health, Family Planning Associations, NGOs
Association for Voluntary Surgical Contraception - AVSC (936-3049)	Ministries of Health, private sector organizations, and Family Planning Associations
Contraceptive Social Marketing II (936-3051)	Ministries of Health, private sector organizations and for profit companies
Access to Family Planning Services through Third Women Managers (936-3059)	PVOs, women's groups, private sector organizations
Family Planning Services - The Pathfinder Fund (936-3042)	Family Planning Associations, NGOs, PVOs
Population and Family Planning Expansion - CARE (936-3058)	NGOs, Ministries of Health
PAC Personnel IIb (INTRAH) (936-3031)	Ministries of Health, Family Planning Associations, NGOs
Training in Reproductive Health - JHPIEGO (936-	Ministries of Health, Schools of Medicine, Nursing and Midwifery

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3045)

International Population Fellows Program - IPFP (936-3054)	Ministries of Health, universities, international population organizations
Population Communications Services - PCS (936-3052)	Ministries of Health, private sector companies, NGOs
Family Planning Management Development - FPMD (936-3055)	Ministries of Health, NGOs
Demographic and Health Surveys - DHS (936-3023)	Ministries of Health, Ministries of Planning, universities, research institutes
Population Policy Initiatives - OPTIONS (936-3035)	Ministries of Health, National Population Council, Family Planning Associations, NGOs
Demographic Data Initiatives - RAPID (936-3046)	Ministries of Health, Ministries of Planning
Strategies for Improving Service Delivery (OR-Africa) (936-3030)	Ministries of Health, NGOs, universities, Family Planning Associations
Natural Family Planning (936-3040)	Ministries of Health, Schools of Medicine, NGOs
Family Planning Logistics Management John Snow Inc. (936-3038)	Ministries of Health, Family Planning Organizations

NUTRITION

Food and Nutrition Monitoring and Support (936-5110)	
Nutrition Education and Social Marketing Field (936-5110)	Ministries of Health, Ministries of Agriculture, Ministries of Education, PVOs, Africa Nutrition Education Network
Vitamin A for Health (936-5116)	PVOs

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Women's and Infant's Nutrition (WIN): A Family Focus (936-5117)	Ministries of Health, PVOs, NGOs, University Teaching Hospitals, Tanzania Food and Nutrition Center
EDUCATION	
Advancing Basic Education and Literacy (936-5832)	Ministries of Education, NGOs, universities
Basic Research and Implementation in Developing Education System (936-5824) BRIDGES	Ministries of Education, universities, Institutes of Educational Research
Improving Efficiency of Education Systems II (936-5823)	Ministries of Education, PVOs
Narcotics Awareness and Education (936-5834)	
Learning Technologies for Basic Education (LEARNTECH) (936-5818)	Ministries of Education, universities, other donors

should be informed by an understanding of the "people's level" socio-economic consequences of education, health and population problems, and of the interaction of these problems within the larger socio-economic context.

It is in the social context of communities, families and persons that HHRAA's integration thrust comes into focus. At the social level, health, population and education issues are interrelated and intercausal. Within missions and ministries, these problems may be attacked separately by distinct implementing agencies; but at the village, community or family levels, they are inevitably interlinked. An accurate analytic understanding of these linkages can assist mission and government planners in identifying the most appropriate point in this chain of variables for effective intervention, or in designing more effective integrated services. In addition, accurate assessment of the social costs and consequences of health problems may be a critical step in determining which interventions can promote development goals and overall human well-being most effectively.

Examples:

Problem: High child mortality induces couples to "over-produce" children in anticipation of the worst-case child mortality scenario.

Social cost: Impoverishment occurs when rapid population growth outstrips the ability of resource bases, economies, and service systems to absorb additional population. Primary education and other social services are strained beyond capacity, resulting in quality deterioration.

Analytic Priorities: What combination of health and child spacing activities has been most effective in promoting child survival? Is this package equally effective under varying environmental and economic conditions? What is the impact of improved child survival upon acceptance of family planning? Given that female education is associated with improved child care, can adult literacy classes have similar effects as formal education on mothers's child care practices and ultimately on child survival?

Problem: Resistance to condom use and reluctance to publicly discuss sexual behavior have fostered the spread of AIDS in Africa.

Social Cost: The rural labor force may be diminished, exacerbating under-production and food shortages in poorer households. AIDS orphans may overwhelm traditional extended-family support systems, and many may die from lack of care.

Analytic Priorities: What are the criteria of social acceptability that health communicators must observe when framing AIDS messages? What types of communications strategies have been most successful in overcoming resistance to condom use? Are there "lessons learned" that might be useful in designing communications strategies for combatting other types of health-damaging behavior?

Recommendations:

The ultimate aim of HHRAA and all its sub-activities is to bring about positive change in health, population and education services. The socio-cultural dimension is relevant to this aim in two ways: 1) social constraints, if not recognized and taken into account, could compromise HHRAA's effectiveness in bringing about improvements, and 2) the changes HHRAA fosters must be positive for service recipients in all social categories, i.e. these changes should not introduce or accentuate inequities. Project sub-activities, then, should not be initiated until their planners have responded satisfactorily to questions such as the following:

1. Is the research designed with sensitivity to cultural values and traditional social patterns within the target population? Has any potential for introducing social strain or disrupting critical social ties been identified and ameliorated?

2. Is the research/analysis expected to produce results that can benefit disadvantaged social groups (in addition to, or instead of, local elites)? Is it sensitive to hidden social or opportunity costs that could differentially affect social categories of service users?

3. In the case of information systems planning, is data disaggregated by class, gender and ethnic categories such that differential use or access to services is identified?

4. If the research involves quantitative analysis, is it designed in recognition of the fact that class, gender and ethnic variables can confound statistical relationships and may need to be controlled?

5. Does the analysis contribute to assuring that A.I.D.'s operational programs facilitate the empowerment of African families to more efficiently use limited resources for the benefit of all members (i.e., is there provision in the SOW for translating findings into practical applications?