

annual report 2011



INDEPTH Network

Better Health Information for Better Health Policy

Cover picture by courtesy of Vadu Health and Demographic Surveillance System, India.
Dr. Sanjay Juvekar, leader of Vadu HDSS, training his field team on ethical issues of HDSS data collection.

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Message from Dr. Kayla Laserson, Outgoing Board Chair (September 2010 - October 2011)

I wish to thank you for an excellent experience on the INDEPTH Network Board of Trustees, especially my time as Chair. Today INDEPTH stands at a very crucial point in its lifetime as the need for, and relevance of, its work in setting national and global health and developmental policies and agendas is more important than ever before.

INDEPTH offers truly unique household and clinic based health and demographic data. The coverage (42 sites), and longevity (many sites have been collecting data for more than ten years), is truly unparalleled. I urge all of us in the Network to continue to focus on our core business: collecting longitudinal data on births, fertility, migration, and mortality, and our ever increasing and collaborative work linking demographic data, routine health facility morbidity data, health outcomes and continued and expanded evaluations of the impact and safety of interventions, including new vaccines.

We must also expand our linkages to local (district and national level decision makers)—linking the HDSS data to Ministry of Health data—and using the HDSS data to improve the health of the very population where the HDSS sits and strengthen health, policy and systems at the local level.

As a Network, we need to fully commit to supporting the sharing of quality demographic data, especially mortality data, including cause of death data in a timely fashion for the global community to use and more especially to be used to improve each country's vital statistics.

I know the new Board will continue to support

INDEPTH's emphasis on the translation of scientific knowledge to policy; the quality of our data; and training of leaders of scientific research in Africa and Asia.

I wish to thank all my colleagues on the Board, past and present, all INDEPTH member centres, the Scientific Advisory Committee (SAC) and the INDEPTH Secretariat for their support and co-operation. I wish the new Board Chair, Professor Marcel Tanner, and the new Chair of the SAC, Professor Peter Byass, my very best. I offer my sincere gratitude to Dr. Osman Sankoh for all his hard work and dedication to the mission of the INDEPTH Network.

I know the future is bright for INDEPTH and I look forward to our continued collaborations. Thank you!



Dr. Kayla Laserson
(Outgoing Chair)
INDEPTH Network Centre Leader, Kisumu HDSS, Kenya



Message from Prof. Marcel Tanner, Board Chair (From October 2011)

It is with great pleasure that I assume the chairmanship of the INDEPTH Board of Trustees. It is a privilege and honour to serve the Network and to follow Dr. Kayla Laserson who devoted so much time and effort to ensuring that the Network stayed well on course. Thus, let me start by sincerely and warmly thanking Kayla Laserson and all colleagues on the Board for all they did for INDEPTH to thrive.

Having followed INDEPTH from its inception to today and having enjoyed many fruitful interactions and collaboration with the Network, not only do I already feel part of the Network but also fully committed to pursue what all my predecessors have so ably created and nicely developed. I shall do my utmost best to contribute with my expertise and experience to the future development of the Network and to address the challenges that we face in the world of global health today.

Looking ahead, we clearly realize how much we need to strengthen our strategic thinking and to translate our strategy into sound and coherent operations. Two cornerstones will guide us:

Firstly, we must continue to adhere to the basic principles: (i) No compromise on science and ethics based on working in partnership. Only if firmly based on a sound scientific approach, striving for high quality work and respecting the ethical pre-requisites, shall we be able to further develop the Network, (ii) remain competitive, (iii) be effective and (iv) most importantly, contribute to health development locally, nationally and internationally. While we are attracted by many new and promising possibilities or opportunities, we should also never forget that our backbone is formed by our core

business of running effectively and efficiently our HDSSs at highest possible levels of quality.

Secondly, partnership as a way of working together remains our second precious cornerstone. It needs our constant attention and care in order to remain successful as (i) an individual within the Network, (ii) a team and (iii) as a whole Network. Partnership entails the basic approach of mutual learning for change across socio-ecological settings, cultures and nations. Let us preserve and further develop this spirit that in fact marked the creation of our Network years ago.

Our main challenges will be further developing our spearheading role in data sharing within the global health research and development landscape as well as our renewed efforts in training and capacity building. I am also clearly aware that we need to pay constant attention to fundraising and sound financial planning. All these issues point to an impressive package of tasks and challenges for the whole Network.



Prof. Marcel Tanner
Director, Swiss Tropical and Public Health Institute
Switzerland

The Board is fully aware of these challenges and its respective role and responsibilities, as clearly reflected in our handing over discussions at Board level. I am convinced that based on our cornerstones as mentioned above we shall succeed thanks to every ones efforts and commitment; particularly the Executive Team and Secretariat, the various Working Groups, the individual member

centres as well as - last but not least - thanks to the constructive critical oversight by the SAC.

Again, it is a real pleasure to be working with you and I look forward to many great moments of reflections and actions. Thanking you for your trust and commitment, I wish you a most productive INDEPTH 2012!

Message from the Executive Director

When the year 2011 began I was cautiously expectant of what the Network would be able to achieve within the year. One year on I can say it has been quite challenging but in the same breath truly rewarding.

In the past year I can count numerous ways in which all INDEPTH's stakeholders supported the Network's activities and demonstrated their determination to assist the Secretariat and member centres to realise their cherished dreams. In offering a quick review of the work of the Network, I can say I am truly excited to look back on the year gone by.

Virtually every sphere of our core business was addressed through one intervention or the other. In the face of limited funds, the Working Groups, with strong leadership were appreciably active and productive showing commitment to their specific areas of research. A word of commendation goes to the following Working Groups:

- Adult Health & Ageing
- Migration & Urbanisation
- Vaccination & Child Survival
- Mortality Analysis
- Tuberculosis
- Cause of Death Determination

- Climate Change, Migration and Mortality

Of course a few others encountered some setbacks that slowed down their work, but they surmounted those challenges and were nonetheless effective. The Secretariat will explore all opportunities to come to their assistance in the coming year. Among such were the Working Groups on:

Health Systems
Sexual & Reproductive Health
Ethics
Fertility
Newborn Health & Epidemiology

There was also good progress made by the following Interest Groups: Mental Health and Neurology/Epilepsy, Indoor Air Pollution, Antibiotic Resistance, Social Autopsy, Vaccine Safety, Household Dynamics. These groups will be reinvigorated and given every impetus to press forward with concrete research in their areas of interest.

One key tremendous success in the past year was in the area of data sharing. Congratulations to the INDEPTH Data Sharing and Access Committee (iDSAC). Led by its Chair, Dr. Alex Ezeh, APHRC Director, the



Committee drew up a comprehensive data sharing policy taking into consideration all the arguments and positions that had been articulated regarding types of data, release periods and the ethical considerations of data sharing.

As a network we remained mindful of the fact that quality data is a sine qua non for data sharing. As such we paid particular attention to supporting member centres to improve upon data quality through thorough and well-documented checks.

With 10 HDSSs actively and fully sharing data on the iSHARE platform:

www.indepth-ishare.org

I can only say we have come this far thanks to our partners and dedicated funding organisations.

By all indications, 2011 was a year of opportunities culminating in the 11th INDEPTH Scientific Conference (ISC) in Maputo, Mozambique. The theme: "Increasing the productivity and utilisation of health and demographic surveillance system data for public health in low-and middle-income countries" proved to be a real rallying call that resonated among scientists from INDEPTH's member centres across Africa, Asia and Oceania and various international collaborators from the scientific and donor communities. They came in their numbers to share knowledge and experiences as well as build consensus on the future directions in health and demographic research in LMICs.

Year after year a word of thanks is extended to INDEPTH's faithful partners and funders, but this year I must express profound gratitude to them. We recognise the deep sacrifices they

made in the past year to keep up their support in the face of extreme shrinkages in global funds.

DANIDA, European Union, Bill & Melinda Gates Foundation, William & Flora Hewlett Foundation, IDRC, NIA/WHO, Rockefeller Foundation, Save the Children (UK), Sida/GLOBFORSK, Swiss TPH, Wellcome Trust, Canadian International Development Agency (CIDA) and Health Metrics Network - INDEPTH Network is immeasurably indebted to you.

There can be no network without the member centres so it is right that I dedicate my final words in this message to them: My avowed aim in the past year was to encourage and support you in whatever ways possible to pursue your difficult but important research projects. Though this was not fully realised I believe I did my utmost best. You can however rest assured that in the ensuing year much more will be done.



Prof. Osman Sankoh,
Executive Director, INDEPTH Network
Accra, Ghana

Introduction

INDEPTH's Vision

INDEPTH will be an international network of demographic research institutions that provides health and demographic data to enable developing countries set health priorities and policies based on the best available evidence and to guide the cost-effective use of tools, interventions and systems to ensure and monitor progress towards national goals.

INDEPTH's Mission

To harness the collective potential of the world's community-based longitudinal demographic surveillance initiatives in low and middle income countries to provide a better understanding of health and social issues and to encourage the application of this understanding to alleviate major health and social problems.

INDEPTH's Strategic Objectives

1. To support and strengthen the ability of INDEPTH member centres to conduct longitudinal health and demographic studies in defined populations
2. To facilitate the translation of INDEPTH findings to maximise impact on policy and practice
3. To facilitate and support research capability strengthening relevant to INDEPTH activities
4. To stimulate and co-ordinate multi-site applications to research funding bodies for specific research activities
5. To systematically apply a comprehensive Results Based Management metrics to evaluate all activities

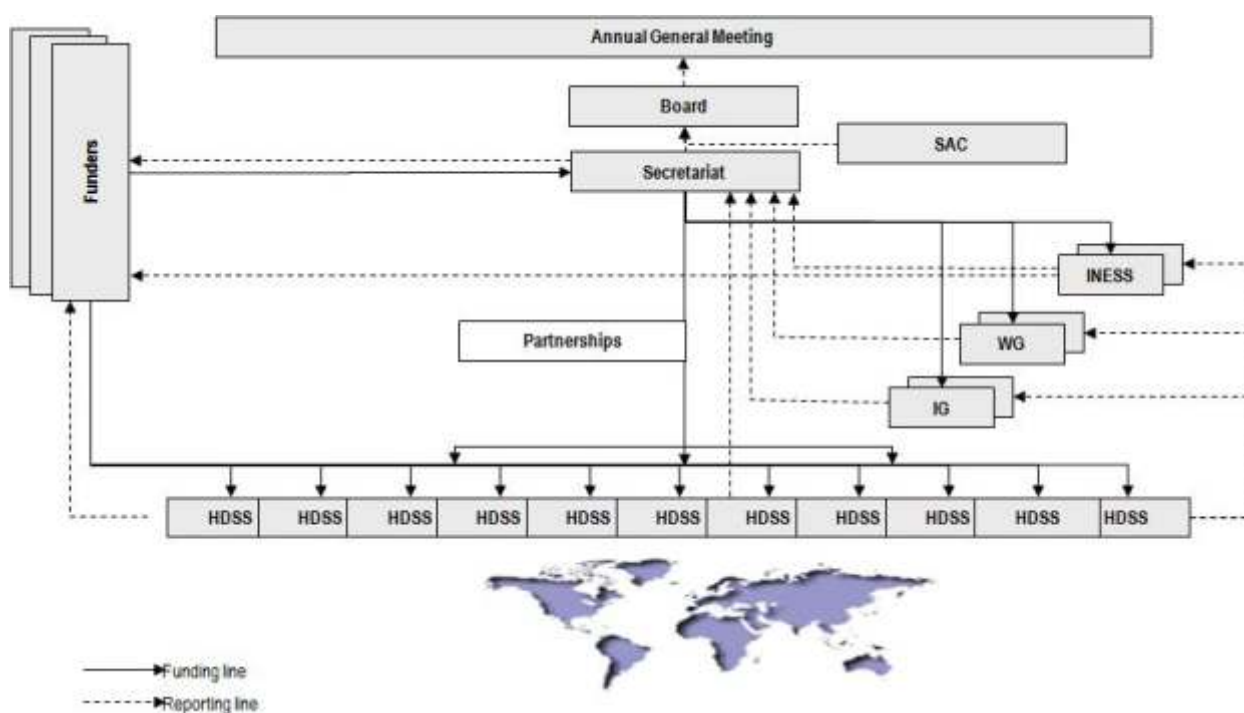
INDEPTH's Broad Activities

1. Cultivate cross-site activity through the:
 - Execution of comparative studies and exchange of experiences on critical common problems;
 - Creation and sharing of regional health status assessments relevant to global priority setting;
 - Coordination of multi-site research collaborations that evaluate interventions in diverse socio-culture and geographic environments; and
 - Recruitment and or creation of additional sites; particularly sites that provide INDEPTH with presence in current geographic gaps.
2. Generate longitudinal data and analysis that can impact on ongoing health and social reforms, inform health and social policy and practice and contribute to governmental, NGO, private and community health efforts.
3. Broaden the scope of health research by confronting the emerging agenda of non-communicable disease and aging, violence and injury, migration and urbanization and the problems associated with vulnerable population segments.
4. Continually improve the methods and technologies used by member centres to ensure all participating groups have access to the most valid and appropriate methodologies available.
5. Generate visibility and recognition for INDEPTH and member centres among critical constituencies including academic, government and international agencies and donors.



INDEPTH's Key Strategies

During the year 2011, the INDEPTH Secretariat executed its mandate through continued use of key strategies for promoting effective running of the Network. These strategies included facilitating knowledge sharing among member centres, helping to disseminate data and research outputs, convening analysis and capacity building/strengthening workshops and coordinating multi-site research collaborations. In addition, throughout the year, the secretariat consistently facilitated cross-site scientific visits, promoted on-site training courses and internships and intensified efforts to standardise research methods and tools. There was also support for dissemination of models for survey design, data processing and analysis and quality control. Furthermore, continuous efforts were pursued to establish and build collaborations with other institutions, particularly the universities, in order to harness their comparative advantage in training for the benefit of member centres.



INDEPTH's Governance Structure

A Scientific Activities

WORKING GROUPS

INDEPTH effectively utilises its Working Groups to venture into areas of interest to the Network. These groups are expected to act as generators and incubators for multi-site research. All INDEPTH Health and Demographic Surveillance System (HDSS) members are therefore encouraged through the Working Groups to identify issues, conduct research, perform analyses, and help shape the future of the Network. During the year under review the following working groups were active:

i. Adult Health and Ageing

After publication of the supplement entitled "Growing Older in Africa and Asia: Multi-site study on ageing, health and well-being" in the on-line journal *Global Health Action*, the major activities carried out by this Working Group in 2011 include: development of an NIH-P01 (program-project) that seeks to generate major support for a next, more ambitious phase of research addressing adult health and aging in African as well as Asian settings. Working closely with colleagues of the Harvard Centre for Population and Development, work aims to strengthen the evidence-base on chronic illness, the causes and consequences, and how this affects adult health and wellbeing. Through an RO3 application led by Nawi Ng, efforts are underway to enrich the existing INDEPTH-SAGE dataset with additional variables including education, migration, household composition and mortality; this will allow more advanced multi-site analyses. Another key activity, with Harvard colleagues led by Lisa Berkman and Martha Fay, involved writing and analytic support for a second round of published papers which have now reached submission stage. Some sites carried out a second wave of the INDEPTH-WHO/SAGE short questionnaire and, in

partnership with WHO, we hope to add selected 'objective' measures (anthropometry, blood pressure, biomarkers) to this. The group held a series of planning meetings over the year, one during the Population Association of America conference in Washington DC in March. There were several side meetings linked to the 11th INDEPTH Scientific Conference in Maputo, Mozambique in October, notably a meeting of the US National Academy of Sciences Panel on the 'Continuing epidemiological transition in sub-Saharan Africa' (convened at Wits, Johannesburg).

ii. Migration, Urbanisation and Health

As a sequel to its earlier work which culminated in the publication of their first monograph, the Migration Urbanisation and Health Working Group (MUHWG) successfully launched the 2nd phase of work under the theme: "Multi-site Analysis of Dynamics in Migration and Health (MADIMAH). The Working Group provided remote support to participating sites to prepare data files for analysis. The official launch of MADIMAH was marked with the holding of its first data preparation workshop in Accra in April, during which event-history files were created for the sites and out-migration and mortality data analyzed (*see below example of the event history analysis residency file*). Site-specific data cleaning plans were developed. This was followed by a second workshop held after the October ISC in Maputo, Mozambique. This second workshop provided the opportunity for preparation and analysis of in-migration, computation of annual indicators and began training in multi-variate regressions for modeling mortality as a function of migration (*see examples in- and out-migration rates by age and sex*). Furthermore, a paper summarizing multi-site findings from the group was presented at the ISC titled *The*

Dynamic of Migration to mortality in East and Southern Africa: INDEPTH Network Perspectives. Finally the group has begun the process of drafting a proposal to raise funds to support future activities.

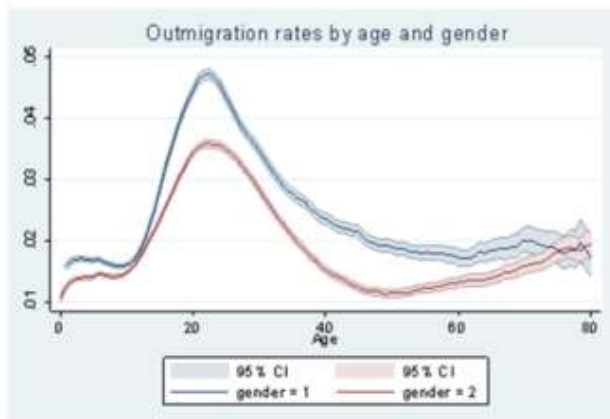
Graphs & Tables:

An example of a residency file obtained by sorting recorded events for individuals by dates:

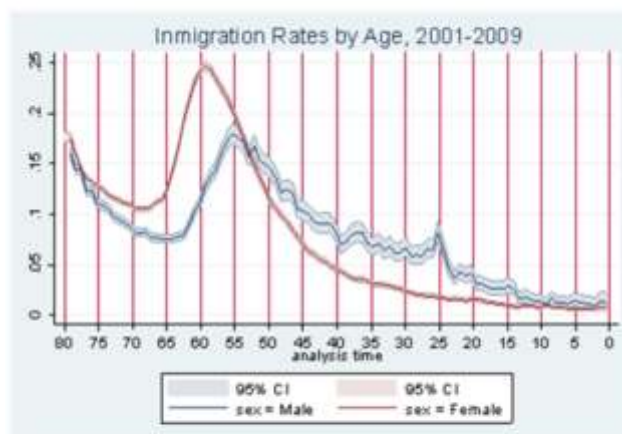
	Individual_ID	Household_ID	Event	DoB	Date Event
A	G0010010010001	G00100100100	ENU	17 Nov 1947	21 Aug 2002
	G0010010010001		EOB	17 Nov 1947	31 Dec 2010
B	G0010010010002	G00100100100	ENU	1 Jul 1976	21 Aug 2002
	G0010010010002		OMG	1 Jul 1976	1 Jul 2007
C	G0010010010003	G00100100100	ENU	23 Aug 1985	21 Aug 2002
	G0010010010003		EXT	23 Aug 1985	1 Jul 2007
	G0010010010003	G00203000104	ENT	23 Aug 1985	2 Jul 2007
	G0010010010003		OMG	23 Aug 1985	10 Nov 2007
	G0010010010003	G00100100111	IMG	23 Aug 1985	30 Mar 2008
	G0010010010003		DTH	23 Aug 1985	15 Oct 2008
D	G0010010010004	G00100100100	ENU	1 Jul 1988	21 Aug 2002
	G0010010010004		EXT	1 Jul 1988	1 Jul 2007
	G0010010010004	G00203000104	ENT	1 Jul 1988	2 Jul 2007
	G0010010010004		OMG	1 Jul 1988	10 May 2008
E	G0010010010005	G00100100100	BTH	1 Jul 2005	1 Jul 2005
	G0010010010005		EOB	1 Jul 2005	31 Dec 2010
F	G0010010010006	G00100100100	IMG	1 Jul 1983	31 Aug 2007
	G0010010010006		OMG	1 Jul 1983	8 Apr 2008

Notes: BTH – Birth; DTH – Death; ENU – Enumeration; ENT – Entry; EXT – Exit; IMG – In-migration; OMG – Out-migration; EOB – End of observation; DoB – Date of birth

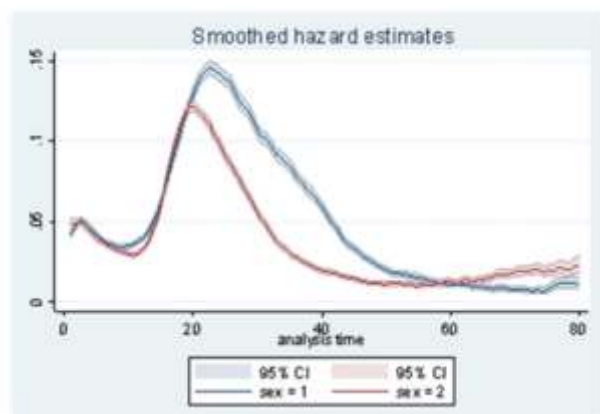
Out-Migration Rates for Manhiça HDSS by sex, 2006-2011



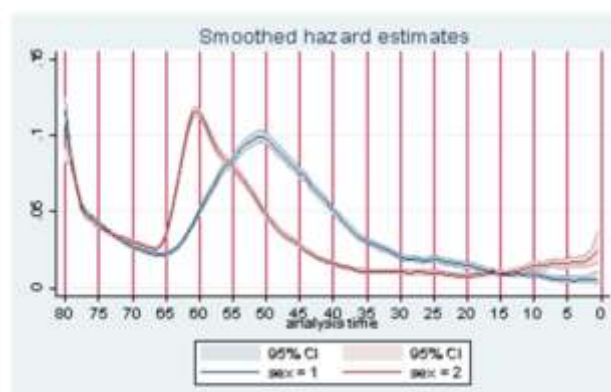
In-Migration Rates for Manhiça HDSS by sex, 2006-2011



Out-Migration Rates for Matlab HDSS by sex, 2005-2009



In-Migration Rates for Matlab HDSS by sex, 2005-2009



iii. Demographic and Health Transition at INDEPTH member HDSSs

The shift from high to low levels of mortality and fertility popularly known as the demographic transition, occurred over a century ago in the developed world. The transition, it is argued, started with a drop in mortality rates that was later followed by a decline in fertility rates. The decline in both mortality and fertility in the developed countries of Europe and North America has been attributed to an increase in socioeconomic development and its resulting spin-offs. Associated with the demographic transition is the epidemiological transition.

Using health and demographic surveillance data from four pilot member centres – two in Africa (Agincourt and Navrongo HDSSs in South Africa and Ghana respectively) and two in Asia (Filabavi and Matlab HDSSs in Vietnam and Bangladesh respectively), INDEPTH initiated a systematic study of demographic shifts in low and - medium income countries (LMICs) with the following objectives:

1. Explore demographic and health transitions at selected INDEPTH centres
2. Document changes in health and demographic transitions using data from the participating centres.
3. Compare transitions between the African and Asian centres and also between different sub-regions in Africa.
4. Compare the experience in the developing country-settings to what happened in the developed countries at the time of their transition.
5. Examine the implications of the transitions on the health care systems (to consider the possible cost implications: infrastructure – human

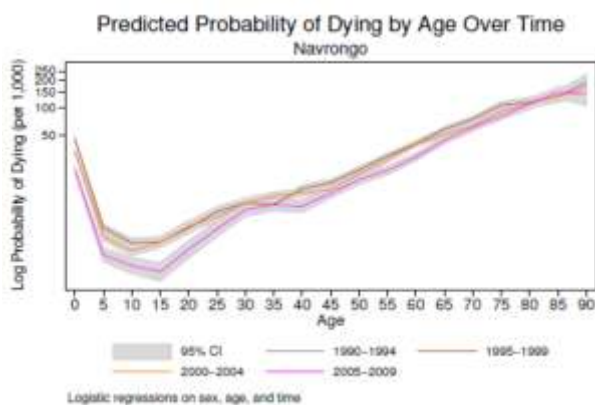
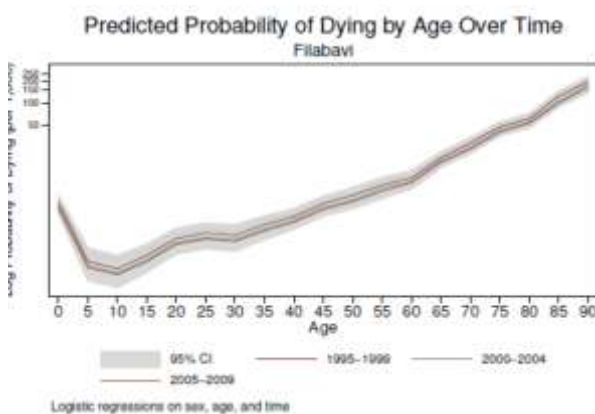
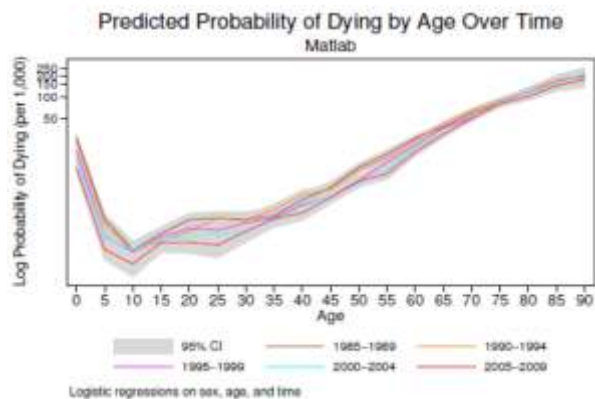
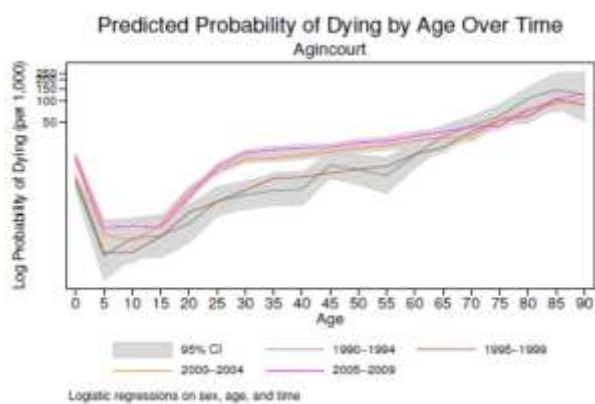
and physical; health financing; education awareness and promotion implications).

Over the past year considerable progress was made in executing the project. All the participating pilot member centres submitted the requisite data on fertility, mortality and migration, including causes of death spanning many years thereby providing a unique opportunity to characterise and understand the demographic and health transition in the countries involved. This enabled an examination of long-trends in fertility, mortality and patterns of disease burdens over time in order to document the health and demographic transitions and determine the nature and pattern of the transitions occurring in these countries.

A major workshop was held in July and a progress report was presented at the Maputo ISC in October. During the workshop the team identified and compared the trends of mortality, fertility, and health, using data from the four member centres involved in the project.

At the official expiration of the grant period in July 2011 a final report was prepared and submitted to the funders: International Development Research Centre (IDRC), Canada.

Clearly, the findings from the four pilot member centres suggest that demographic and health surveillance data represent an important source of data for examining the demographic and health transitions in LMICs. Consequently, there is great potential and an urgent need to broaden this work to cover data from more member centres in order to definitely characterise the transition in LMICs.



iv. Health Systems Research (HSR)

The status of health systems is emerging as a very major determinant of population health in LMICs. Indeed, much of the recent progress in population health has come from access to improved health systems and services. As a result health systems research has gained considerable prominence in recent years. The current decade has seen numerous opportunities to accelerate health development in LMICs. It is increasingly becoming evident that the fundamental reason for not meeting the Millennium Development Goals for health in LMICs, does not lie with any given technical health service intervention but with the broader health system and its inability to scale up proven intervention packages to quickly achieve national coverage. Specific losses in health intervention efficiency due to systemic delivery issues – which affect access, affordability, acceptability, provider compliance and client adherence - are usually grossly underestimated. These systemic factors and their effects are poorly studied and evaluated. Few health systems have the in-built capacity to measure or understand equity, effectiveness - and the determinants -

in real-world settings.

INDEPTH HDSSs have a long and strong tradition in monitoring population health but not much has been done in monitoring health systems and performance. INDEPTH members with excellent research capacity reaching every household and individual longitudinally at district or sub-district level, most of which have existing links with the hospitals makes it easier to triangulate the HDSS data and hospital data.

In the early part of the year 2011, a draft concept idea seeking to utilise the INDEPTH HDSS platform to develop a tool to monitor need, utilisation and access to care under the universal coverage framework was initiated. In September, the Secretariat convened a proposal development workshop and finalised a proposal which was submitted to the Rockefeller Foundation and subsequently approved for funding.

The group held a side meeting during the ISC in Maputo, Mozambique where a special scientific session on health system featured prominently on the programme.

Ghana and Vietnam, two countries that have adopted/implemented a policy of universal coverage over the year have been selected for a pilot study. The two HDSSs singled out were Navrongo and Filabavi. Data generated from this study will be analysed and the results compared between the two rural areas in two continents. The results are intended to guide a scale up and wider application of a new tool designed by the INDEPTH researchers.

v. Sexual and Reproductive Health (SRH)

With a grant from the William & Flora Hewlett Foundation, five INDEPTH members: Kisumu and Nairobi HDSS (Kenya), Magu HDSS (Tanzania), Navrongo HDSS (Ghana) and Rakai HDSS (Uganda) received funds to utilize existing data and, to a limited extent, collect additional data where necessary to enable an examination of the impact of family planning and reproductive health interventions in their respective HDSS settings.

Throughout 2011, the project was implemented at the various member sites. Despite a few challenges, there was considerable progress with a number of papers being produced and presented at various scientific gatherings including the 11th INDEPTH Scientific Conference (Maputo, Mozambique) and the Union for African Population Studies (UAPS) Conference in Ouagadougou, Burkina Faso while other papers were submitted and accepted for presentation at the Population Association of America (PAA) conference in San Francisco in 2012.

In September, INDEPTH organised a workshop bringing together 14 HDSSs (including the five funded HDSSs) to review work done so far and develop a comprehensive SRH agenda for the Network. Deliberations at this workshop led to the identification of key research ideas for multi-site research to be studied in different phases: short, medium and long term. The following were identified as short term projects:

- Adolescent behaviour and transitions
- Maternal mortality and pregnancy outcomes
- Fertility preferences and subsequent fertility behaviour
- Birth intervals and other child outcomes (e.g. education) and health

- Inter-pregnancy intervals
- Determinants of contraceptive use among youth and short-term outcomes
- Evaluation of maternal health policies and interventions
- Adolescent and maternal healthcare

In the medium term the following are expected to be considered:

- Adolescent fertility as a contribution to total fertility
- Dynamics of elements of women empowerment: changes in age at first birth, marriage over time and their long-term effects.

Two areas of study were identified as long-term activities:

- Adolescent transitions (boys and girls)
- Long-term impacts of HIV on households economic wellbeing

Based on preliminary discussions with strategic partners and collaborators, including a side meeting in Maputo in October during the INDEPTH Scientific Conference, INDEPTH is taking steps to develop a long-term proposal for a series of studies of adolescent cohorts within several of the INDEPTH member HDSSs.

The clear message from the workshops, discussions and studies is that tracking adolescent transitions over time offers the best option for a better understanding of the demographic and health impact of Reproductive Health and Family Planning interventions.



Participants at the SRH workshop in Accra

vi. Vaccination and Child Survival

The vaccination and child survival Working Group led by Professor Peter Aaby of Bandim HDSS, Guinea Bissau, was active in the year 2011. The activities of the Group are being rolled out along two tracks:

“Monitoring and assessing the impact of vaccinations and other childhood interventions for both boys and girls” supported with a grant from DANIDA and,

“Optimising the impact and cost-effectiveness of existing child health intervention programmes for vaccines and micronutrients in low-income countries” funded by the European Union (EU).

During the year 2011, a workshop was held in Guinea Bissau in February under the DANIDA-funded component to agree on the data collection methodology and subsequently data collection began. As part of this component, five (5) PhD students have started a process of joint registration at local universities in their respective countries and at a Copenhagen University.

In the case of the EU sponsored component, work began in March followed by a consortium meeting in Navrongo, Ghana in

April and initiation of the data collection for the observational part of the study.

Other activities in the year included a number of meetings organized in Maputo, Mozambique as well as a two-day post ISC workshop held from 28th- 29th October 2011. The Working Group has also been encouraging other HDSSs with vaccination data to go beyond examining the impact of vaccines on child survival and consider also enhancing data sharing and collaborative analysis of existing datasets.



Vaccination & child survival group in the Maputo meeting

vii. Climate Change, Migration and Mortality (CLIMIMO)

Weather and climate are related to the health status of populations in several ways that may change potentially with global warming. Time series analysis can help explain the relationship between environmental conditions, health susceptibilities and population movement. Weather-related direct health impacts include heat waves, cold spells, dust storms, draughts, and flooding. There are also indirect health impacts associated with weather patterns that are suitable for malaria or dengue transmission and waterborne infections. A better understanding of the underlying or associated

causes of disease occurrence can, if combined with climate change scenarios, serve as a basis for a better understanding of the potential effects of climate change as a crucial driver for worldwide policy. In recognition of the foregoing, the INDEPTH Network in partnership with UNESCO initiated an effort to take advantage of the unique longitudinal data from member sites to explore this relationship.

Following a series of consultative meetings to further discuss INDEPTH's potential contribution to the study of climate change from a migration perspective, it was agreed to link up the group with experts in climate change to facilitate the identification of the linkage between mortality, climate and migration.

In February, the project was further advanced with a training workshop on time series methods for relating environmental stressors to mortality and morbidity. The workshop was held in Nouna, Burkina Faso and provided insights on the potential implications of climate change on health at the global, regional, national and local levels. It also trained participants to conduct climate change impact assessment using time series models and exposure assessment methods.

Following the workshop, member sites researchers continued working on the available data with constructive feedback from the Secretariat and facilitators to produce preliminary multi-site specific results. Based on the preliminary outputs from the member sites, INDEPTH produced a highly informative factsheet on Climate Change, Migration and Mortality (CLIMIMO) that was widely distributed during the ISC in

Maputo, Mozambique and at other international fora.



Cover page of CLIMIMO Factsheet

viii. Cause of Death Determination (CODD) and analysis

In Low -and-Middle Income Countries (LMICs) where most deaths occur outside the formal health sector and vital registration systems (VRS) are virtually non-existent or incomplete, Verbal Autopsy (VA) has become the acceptable alternative for obtaining cause of death information. While a number of INDEPTH members have adopted the VA tool for collecting information on probable causes of death, coding (diagnosis by clinician/physician) of the VA forms remains a big challenge. The INDEPTH Secretariat has made considerable efforts to speed up the procedure of coding the VA forms. Interventions in 2011 included the provision of sub-grants to members to enable them accelerate the coding of data.

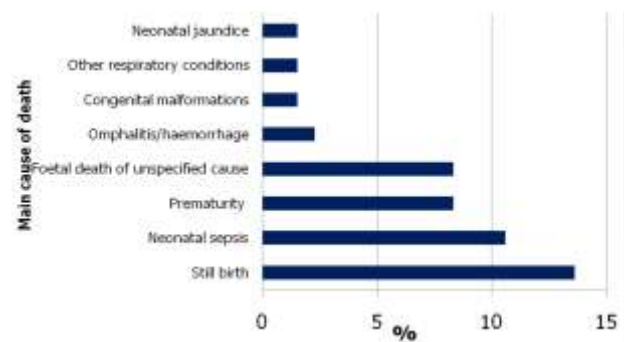
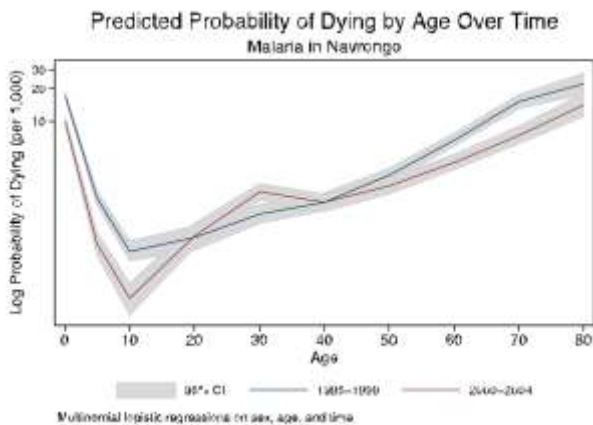
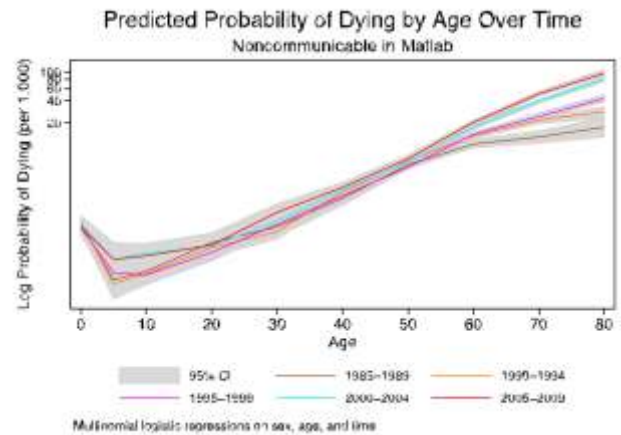
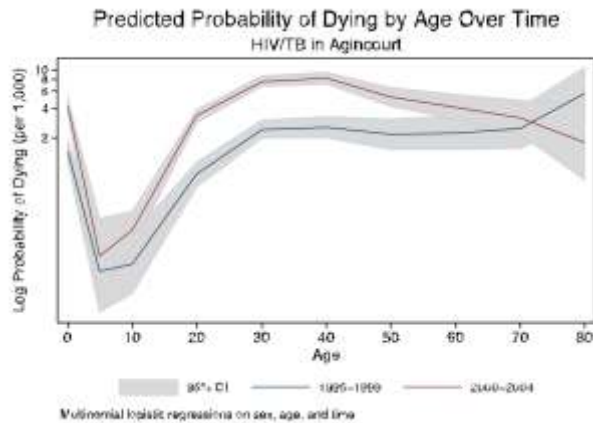
To ensure standardisation, the Secretariat encouraged the use of InterVA (a data-driven algorithm tool) developed by a team led by Prof. Peter Byass of Global Health at the University of Umea in Northern Sweden to determine causes of death using Bayesian

probabilistic methods. In this light, the Secretariat provided financial support to member sites to enable them code their symptom-level data to allow for the use of the InterVA tool. With funds from WHO through the Health Metrics Network, the INDEPTH-ALPHA Network collaboration was established to further advance these efforts.

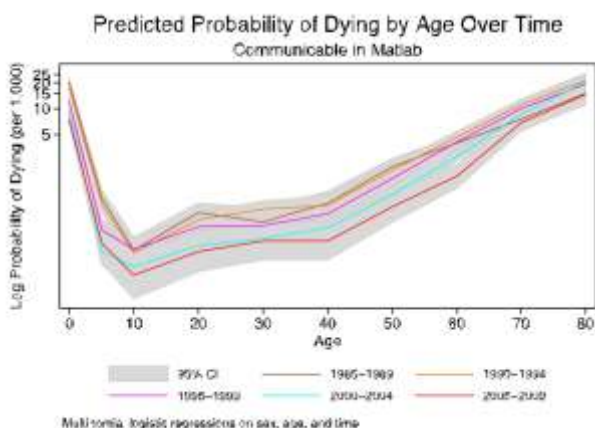
The INDEPTH-ALPHA collaboration held its first workshop in Mwanza, Tanzania (hosted by Magu HDSS) in April 2011. A follow up workshop on the interVA (Byass' technique) organised in collaboration with ALPHA Network was hosted by the Kisumu HDSS, Kenya in October 2011. This workshop was the first extensive work on analysing INDEPTH VAs using interVA and applying a modified version of interval.

VA with post-mortem

Furthermore, in a bid to validate the VA tool, a new strategy spearheaded by Kisumu HDSS under the leadership of Dr. Kayla Laserson and with modest financial support from INDEPTH is currently underway. The ultimate goal is to assess the acceptability and feasibility of performing post-mortem examinations. Hence a sub-group referred to as 'VA with post-mortem' has emerged.



An example of major causes of neonatal deaths at INDEPTH HDSS



ix. Tuberculosis - Population-based research on TB (PoRT)

The goal of the Tuberculosis Working Group is to conduct cross-site studies to maximize the utility of HDSSs for TB research in developing countries. The main focus of the working group is linking TB patient registers from clinics in and around the health and demographic surveillance area to the HDSS data. With this linkage preliminary analyses can be conducted.

Two major activities were initiated by the Working Group in 2011. The first led by Dr. Christian Wejse (Bandim HDSS, Guinea



Bissau), consisted of data collection using Bandim, Filabavi, Karonga and Kisumu HDSSs to examine cases of suspected TB that remain undiagnosed and/or are never treated. Preliminary data showed a substantial number of suspect but undiagnosed/treated cases (162 for Karonga and 506 for Bandim). The second major activity led by Dr. Karad (Vadu HDSS, India) aimed at strengthening the capacity of HDSS sites to evaluate TB burden and associated TB risk factors and evaluate the characteristics of TB patients who seek TB care.

FUNDED PROJECT

INDEPTH Effectiveness And Safety Studies of Antimalarials In Africa (INESS)
INDEPTH Network Effectiveness and Safety Studies of Antimalarials in Africa (INESS) is a platform with a goal to provide safety and effectiveness information on antimalarials and vaccines to enable African countries to make rational and timely policies on drugs and vaccines.

The INESS platform works in seven sites in four African countries (Ghana, Tanzania, Mozambique and Burkina Faso) and covers Anglophone, Francophone and Lusophone Africa. It therefore has the potential to provide national, regional and international health decision makers with independent and objective evidence on the safety and effectiveness of new antimalarial drugs as a basis for malaria treatment policy in Africa.

Driving the INESS project are its Principal Investigator, Prof Fred Binka, Clinical Trialists Dr. Bernhards Ogutu and Dr. Mrs. Rita Baiden, Statistician Mr. Martin Adjuik, Finance Officer

Raymond Akparibo and Administrative Officer Mrs. Margaret Bugase, alongside a host of researchers and data managers from the participating field sites in the selected countries across Africa. These field sites are Ifakara and Rufiji (Tanzania), Nouna (Burkina Faso), Manhica (Mozambique) and Navrongo, Kintampo and Dodowa (Ghana).

In the year 2011, significant progress was made towards achieving the key objectives:

- To develop and maintain Phase IV - Effectiveness Studies of Antimalarials in Africa
- To assess effectiveness of new malaria treatments and its determinants in real life
- To evaluate the safety of new treatments through a comprehensive pharmacovigilance in a health system context

Despite a few challenges, the project remained very much on course throughout the year, with a number of innovative activities being pursued including accelerated data collection for all the different modules, tools and SOPs development and deployment, review meetings and stakeholder consultations.

Working through task teams from three collaborative sub-partners: the School of Public Health, University of Ghana, the Swiss Tropical and Public Health Institute (Swiss TPH) and the US Centers for Disease Control and Prevention (CDC), there was development, training and field tests of tools and Standard Operating Procedures (SOPs) for the different modules prior to adaptation and use. Each task team was assigned a specific role with the School of Public Health taking charge of data analysis and synthesis. Module

specific protocols were also developed for System Effectiveness, Community Compliance, Cost and Cost-Effectiveness, Impact and Context, Safety, Drug Efficacy, Data Linkage and Data Synthesis.

A key activity executed in 2011 was a Data Synthesis and Review meeting held in Dar es Salaam, Tanzania from 16th – 18th February. This meeting was attended by representatives from the participating HDSSs, stakeholders including School of Public Health, University of Ghana, Ifakara Health Institute, US Centers for Disease Control, Atlanta, Swiss Tropical and Public Health Institute, Tanzania Food and Drug Administration, National Malaria Control Programmes in Tanzania and Nigeria, GSK, PATH/MVI, Medicine for Malaria Venture (MMV) and Novartis. The objectives were to update and review activities of the INESS project and present interim analysis results after 1 year of data collection in sites in Tanzania and Ghana.

This was followed by a meeting in Geneva in March with MMV and the Bill & Melinda Gates Foundation to discuss and agree on modalities relating to implementation of a Phase IV study for the drug Eurartesim. The meeting also discussed its registration prospects, donation, funding and procurement and distribution processes at country levels.

Also in March, the INESS Governance Council held a meeting in Accra at which preliminary results on system effectiveness and safety were presented by two participating sites from Rufiji and Ifakara HDSS (Tanzania). While the Council was generally satisfied with the progress of enrollment, it expressed concern about the safety module (Cohort Event Monitoring) which was lagging behind. To address this, it was agreed that there

should be: (i) increase in the number of field staff and (ii) use of phone calls to increase follow up rates.

Prior to the INESS project the DSS-Health Facility software in use had one major challenge in the form of non conformity of photos to the format required for the ID card software. To overcome this problem, in April, new software which was successfully developed and implemented in Kintampo was deployed in Dodowa and Navrongo. Subsequently it was extended to Rufiji and Ifakara in Tanzania in June.

June was quite eventful for INESS in that during the month the task teams worked closely with the sites and country statisticians to develop a comprehensive analysis plan. Additionally, a number of activities were carried out to facilitate the implementation of new ACTs. It was also in the month of June that the European Medicines Agency (EMA) recommended the approval of Eurartesim (DHA+PQP) from Sigma-Tau for the treatment of uncomplicated *Plasmodium falciparum* malaria. Furthermore, interactions were held with stakeholders such as regulatory authorities and policy makers in Burkina Faso, Mozambique, Ghana and Tanzania in preparation for smooth drug deployment.

A significant achievement at the end of June was the completion of data collection as well as the start of deployment of the data linkage module in Mozambique and Burkina Faso. It is noteworthy that the module on therapeutic efficacy of the first line treatment was initiated in Ifakara and Rufiji, (Tanzania), Kintampo, Navrongo, and Dodowa (Ghana), over a period ranging between April and July, while in late July and end of August there was enrollment in Burkina Faso and Mozambique



respectively. A critical meeting was held in Accra from 15th – 16th September 2011 to provide an opportunity for all participating sites to share experiences and consider various publications that would emanate from the studies.

In October, at the INDEPTH Scientific conference in Maputo, Mozambique progress of work and some key findings were presented to an audience of over 300 scientists, researchers and policy makers from around the world.

The INESS project convened its second Ghana stakeholder consultative meeting in Accra on November 21st assembling national, regional and district representatives from the Ghana Health Service, Ministry of Health, the Food and Drugs Board and other collaborators to discuss the preliminary findings of the project.

All in all, by the end of the year INESS activities had been successfully integrated into: (i) routine HDSS activities and (ii) district health management, thereby registering an important step towards building district health observatories. It was clearly demonstrated that the INESS platform can indeed be used to determine effectiveness and safety of other interventions.

“SMS for Life” was also made operational in all INESS districts in Tanzania and Ghana and it also became possible to monitor the stock levels of ACTs on a weekly basis a move which resulted in improvement in supply chain management.

INESS has gained outstanding recognition for its ability to recruit and follow-up large cohorts of patients for safety evaluation in real-life settings. In each country, 10,000

patients with suspected uncomplicated malaria were followed up. Furthermore the project has demonstrated an ability to record several different adverse events in patients and to use cell phones to do follow-up. This is very important as it enables the conduct of large scale real-life phase IV studies without the need for follow-up of patients at home. Going forward it should be entirely possible to use newer cell phone based technologies to automatically send SMS to patients to encourage them to report any adverse events post-drug exposure as well as to remind them to undertake specified actions.

Considering the fact that the W.H.O database of adverse drug reactions (Vigibase) contains only 464 reports to all ACTs, the INESS sample size makes them one of the biggest post-marketing safety studies of antimalarials ever conducted. Eventually reports from the INESS Safety Monitoring Panel, that are causally related to ACT intake would be contributed to the W.H.O database making INESS the largest contributor of Adverse Drug Reactions to ACTs in the global database.

To date, INESS findings confirm that Cohort Event Monitoring as a methodology for phase IV data collection, should be instituted in all INDEPTH sites whenever new medicinal products, new combinations of existing products or new vaccines are introduced in order to provide timely information of the safety of the product in the immediate period following introduction. This is useful for policy makers and other researchers and for patients to enable early detection of any safety signals for quick correction.

INTEREST GROUPS

The Secretariat continues to encourage the establishment of various groups proposing cross-site activities. From experience, many of these groups do not go beyond the concept phase. The secretariat takes the risk to provide seed funding for some interest groups to convene proposal development workshops. This is normally done for interest groups with high potential to raise project funds. The following are some interest groups:

i. Mental Health and Neurology/Epilepsy

This group comprising five INDEPTH member-sites - Kilifi HDSS (Kenya), Agincourt HDSS (South Africa), Iganga-Mayuge HDSS (Uganda), Kintampo HDSS (Ghana) and Ifakara HDSS (Tanzania), under the leadership of Prof. Charles Newton of Kilifi HDSS and Victor Doku from the Institute of Psychiatry, London UK, is a collaboration to examine the burden of epilepsy at the respective sites under the theme: *Study of the Epidemiology of Epilepsy in Demographic Sites (SEEDS)*. In 2011, with funds from the Wellcome Trust, its main activity consisted of completing data collection and presentation of a paper at the Maputo ISC in October.

ii. Indoor Air Pollution (IAP)

Underlying the work of this group is the premise that exposure to indoor pollution is a major risk factor in a significant number of respiratory tract infections, asthma, lung cancer, chronic obstructive pulmonary disease (COPD), cataract and blindness. Amongst these, acute respiratory infections amongst children and COPD amongst adults seem to be of major concern. Tobacco smoking is the major risk factor for COPD in the western world while in the developing countries; exposure to biomass fuel is considered the major risk factor, though this has not been carefully studied in African and

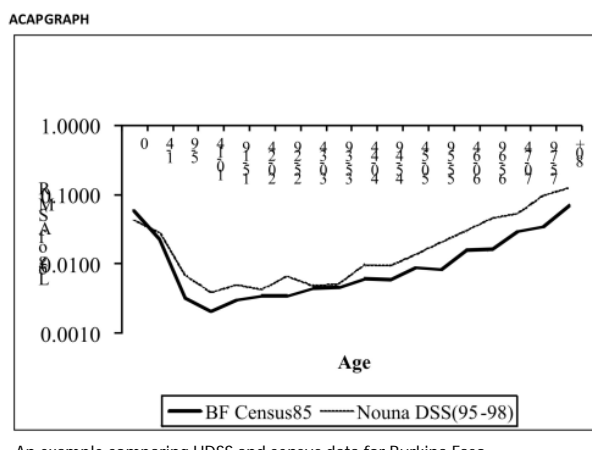
South-Eastern Asia countries.

With COPD related mortality predicted to almost double by the year 2030, there is need to conduct such epidemiological studies in these regions of the world to assess the burden of non-communicable chronic respiratory diseases and ultimately, provide relevant information to assist policy makers to devise strategies for their prevention and management.

In the course of 2011, this group focused its efforts on preparing a proposal to raise funds for research work. With small grants from the Swiss Tropical and Public Health Institute, a proposal development meeting was held in Basel resulting in a draft proposal: '*Indoor Air Pollution Intervention Studies (IAPIS)*'. In addition to a side meeting at the ISC in Maputo, a questionnaire was also developed and circulated to assess biomass fuel use and stove types at INDEPTH HDSSs. A total of about 14 HDSSs responded to this questionnaire. Fund raising efforts are continuing.

iii. INDEPTH-ACAP Collaboration and Consultative meeting on Hosting of African Census Data

The INDEPTH Network and the African Census Analysis Project (ACAP) at the University of Pennsylvania in the United States of America have had a decade-long collaboration. This collaboration takes advantage of the individual and collective strengths of both organizations to advance the understanding of African population dynamics and health through combining census data (archived by ACAP at UPenn) and health and demographic surveillance system (HDSS) data generated by INDEPTH members for research and training purpose.



Given that one of the original intents of the ACAP project was to eventually relocate the archived census data in an African institution that would be mutually acceptable to the major partners, a consultative meeting between INDEPTH and ACAP was held in Accra, Ghana from 9-10 July 2011 to revisit the idea of returning ACAP to Africa. The following institutions were represented: INDEPTH Secretariat, ACAP, Statistics South Africa (Stats SA), Ghana Statistical Service (GSS) and INDEPTH Scientific Advisory Committee. Among the key resolutions of the meeting, INDEPTH and ACAP agreed that:

- Given the impracticality of housing a country's census data in another national institution, a pan-African scientific organization such as INDEPTH would be more suitable to host the datasets of African countries.

- Revamping the ACAP initiative is a great idea and as such INDEPTH and ACAP should join the two brands to launch a stronger voice from the continent.
- While technology has changed tremendously making the capacity to store data far less complex than it used to be, the research value of these data is still very high. INDEPTH and ACAP need to refine the data and create/offer opportunities for a major impact.
- There is the need to make this initiative more attractive to national statistical offices through collaboration in training and data analysis.
- Although INDEPTH has a comparative advantage as a regional organisation with an added value that will enrich the census data, strategic regional partners are also needed in this process. These include Stats SA, ECA, Afristats.
- There is need to map out other institutions that had expressed the desire to host ACAP and embrace them as logical collaborators.

These resolutions were embodied in a joint INDEPTH-ACAP statement.



iv. Ensure Mothers and Babies Regular Access to Care (EMBRACE)

There is need for greater attention to maternal, neonatal and child survival especially in the current context where critical data are available to guide policy and action. In recognition of this need, the Japan Ministry of Foreign Affairs (MOFA) has sought collaboration with partners in Ghana (Ghana Health Service, Ministry of Health, School of Public Health and INDEPTH Network) to mount an initiative that builds on resources and expertise at INDEPTH member sites in Ghana (Dodowa, Kintampo, and Navrongo Health and Demographic Surveillance Systems – HDSS) to assess the effectiveness of ongoing interventions and implement novel approaches *to reduce maternal and neonatal mortality in order to improve on child survival in sub-Saharan Africa.*



EMBRACE consultative meeting in Accra

In line with this proposed collaboration, a technical consultative meeting was held in Accra, Ghana 8th-9th September 2011. Attended by well over 35 participants, including Japanese delegation from MOFA, JICA and the University of Tokyo, the Ghana Health Service (GHS) and the three HDSSs, the three-fold objectives of this two-day technical consultation meeting include:

To assess existing research activities related to MNCH;

To identify and agree on a set of interventions and areas where these will be tested;

To review and identify effective approaches to research capacity development.

One of the main outcomes of this meeting was the group work which transformed packages of integral interventions to be considered.



EMBRACE Technical consultative meeting in Accra

v. Antibiotic Resistance

Resistance to most commonly used and affordable first line antibiotics to treat common bacterial infections has become one of the important health threats of the 21st century. The problem is particularly pressing in low- and middle-income countries (LMICs), where the high infectious disease burden is aggravated by erratic access to antibiotics and where treatment failure in the community remains largely unnoticed. INDEPTH has developed tools to measure, map and track the socio-demographic impact of cause-specific morbidity and mortality in LMIC populations.

Recent experiences from national efforts to tackle Antibiotic Resistance (ABR) in LMICs have high-lighted the need for local data on resistance and antibiotic use to aid in the



development of guidelines for empiric therapy, as well as providing baseline data against which the effectiveness of future interventions can be assessed.

In the course of 2011, the group held a series of discussions and meetings and also stepped up the processes of developing a proposal entitled "ASSESSMENT OF THE PREVALENCE OF ANTIBIOTIC RESISTANT INFECTIONS IN LOW- AND MIDDLE-INCOME COUNTRIES: Development of a consistent surveillance framework for antibiotic use and antibiotic resistant infections in Health and Demographic Surveillance System Centres in sub-Saharan Africa and Asia".

The proposed study is to be undertaken by providing a comprehensive and consistent sampling frame across participating sites that allows for standardised data collection at community and hospital level.

The Principal Investigator is Prof. NTK Chuc (Filabavi HDSS, Vietnam) with Dr. Betuel Sigauque (Manhica HDSS, Mozambique) and Dr. Wasif Kahn (Bandarban HDSS,) as co-Principal Investigators.

vi. Newborn Health & Epidemiology

Despite improvements in child survival over the years, the burden of mortality in the first month of life has remained virtually unchanged. Most of these deaths are caused by three preventable causes - complications of preterm births, infections, and birth asphyxia. Although many of these deaths may be avoidable, newborn health is now just getting on the policy agenda of many African and Asian countries and assessment of progress to achieving MDG 4 in response to different interventions in various countries is and will

be hampered by a dearth of data on newborn epidemiology especially in LMICs.

The INDEPTH Network is well placed to bridge this data and evidence gap since its member HDSSs are relevant for monitoring epidemiological trends and generating evidence relevant for MDGs as they collect longitudinal data. INDEPTH Network has already identified newborn issues as a key research gap and encouraged multi-site HDSS research. Led by Dr. Peter Waiswa of Iganga/Mayuge HDSS, Uganda, the ultimate goal of this group is to develop a newborn research platform (Working Group) within the INDEPTH Network in order to provide evidence-based information to inform policy and programs for newborn survival in LMICs.

More specifically, the group's objectives include:

1. Develop and implement a newborn research agenda within the INDEPTH Network;
2. Actively participate in evidence-based newborn policy formulation in low-income countries, or disadvantaged populations in middle-income countries, with a special focus on Africa and Asia;
3. Provide a forum for advocacy and dissemination of newborn research findings;
4. Participate in capacity building for newborn research and programming in low-income countries.

Among activities in 2011, the group had a post ISC meeting in Maputo to discuss research priorities and ways of collecting the required data to address these research priorities as well as outline an action plan. The Maputo

meeting was attended by 13 participants including representatives from 10 HDSSs.



Participants at the Maputo meeting

vii. Household Dynamics

Despite growing literature on households and family demography, little is known about the relationship between changes in household structure and human development indicators. Changes in the household structure reflect the enduring tensions between traditional and modern values and structures: two parents, single parent, step parent households, extended households, living apart, multiple partners households, multiple-generation households, elder households, child households without adults. Children or women may move from one type of household to another. The variability of these situations derives from the multiplicity of the causes: adult mortality, family pattern (matrilinear and matrilocal regimes), dissociation between childbearing and childrearing, out-of-wedlock childbearing, migration. These different situations may force individuals to change dwelling as well as social and economic environment. How often do changes in household structure occur in demographic surveillance areas? Do these changes impact achievement of child and

women related MDGs?

Against this background, an interest group was constituted in 2011 that aims to provide answers to these questions. The specific objectives of the group include:

- To investigate patterns and reasons for changes in household's structure especially the linkages between such changes and household wealth.
- To investigate the linkages between changes in household structure and under-five children health status.
- To analyse changes in household structure and their implication on marriage timing, transition to adulthood, adolescent fertility, use of contraceptive methods and unmet needs.

As part of the activities of the group in 2011, in August a workshop was held in Addis Ababa, to prepare a data template to enable assessment of participating sites and criteria for their selection. A proposal was also drafted to solicit funding.



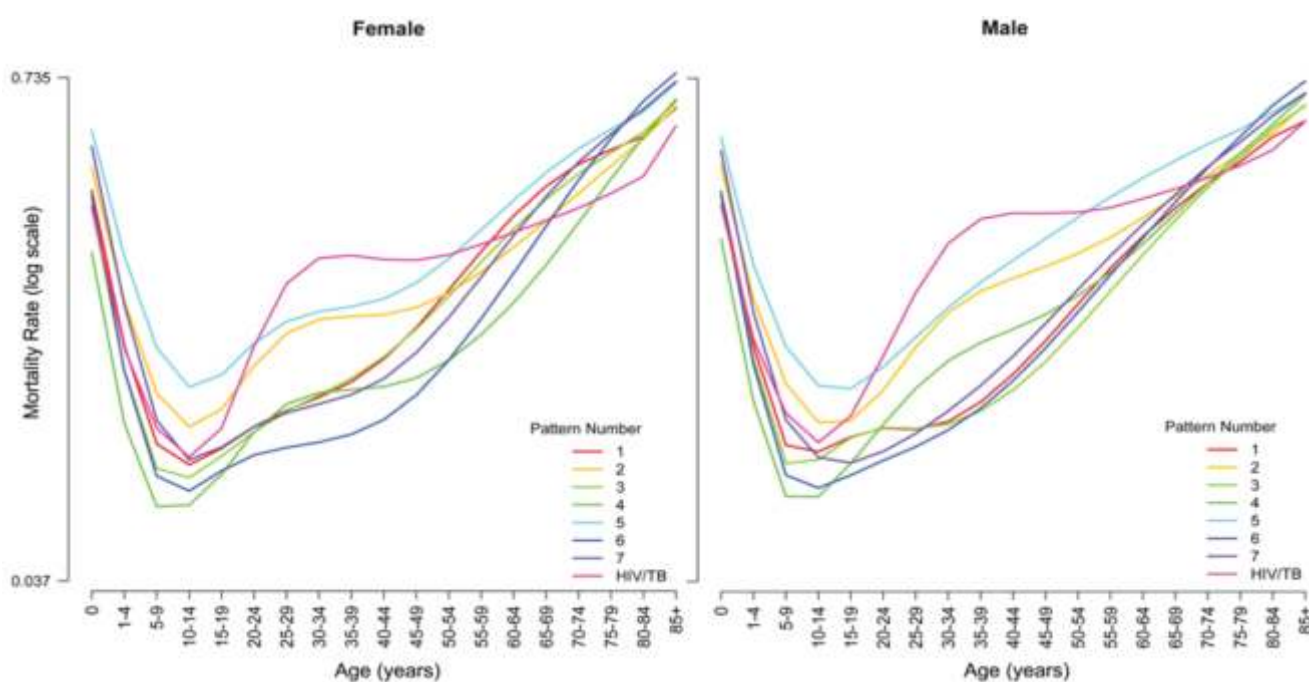
Participants who attended the workshop in Addis Ababa

SCIENTIFIC PRODUCTS

i. Second Edition of INDEPTH Mortality Monograph

The year 2011 saw a number of mortality data analysis workshops taking place with scientists from selected member HDSSs. In July, following queries on the 33 datasets that were submitted, a workshop was held in Accra involving a limited number of the mortality analysis group. One of the main outcomes of this workshop was a review of the diagnostics checks and analytical results from the 33 datasets resulting in crucial decisions on these datasets based on expected results. The workshop also made it possible for the team to complete all the stringent data diagnostic checks and resolve queries on the datasets. After careful scrutiny, twenty four (24) datasets passed all the diagnostic tests and were found acceptable for further analysis while nine (9) were found to have challenges that required further investigation and

justification. An outline of a monograph with fully elaborated site specific chapters was proposed during the July workshop. It is anticipated that a supplement containing multi-site chapters on data, methods and key results from the mortality analysis, child and adult mortality in detail will be available. Also a presentation of the model life tables will be produced for publication in a high impact scientific journal will also be available.



B Other Activities



Scientists actively listening to ISC proceedings

1. 11th INDEPTH SCIENTIFIC CONFERENCE, MAPUTO, MOZAMBIQUE

Since its establishment 11 years ago, the INDEPTH Network has consistently held its Annual General Meeting as a combined forum for reviewing the work of the Network and examining emerging opportunities for generating, managing, analysing and sharing quality data, health research methodologies and evidence.

October 24th to 27th 2011, therefore witnessed the holding of the 11th AGM under a new name: INDEPTH SCIENTIFIC CONFERENCE in Maputo, Mozambique under the theme: *"Increasing the productivity and utilisation of health and demographic surveillance system data for public health in low-and middle-income countries"*. A theme that was carefully chosen to reflect the Network's resolve to ensure that greater public health policy impact continues to be registered through the work of HDSSs.

The 2011 conference was truly a global event that provided a unique platform for scientists from INDEPTH's members across Africa, Asia and Oceania and various international collaborators from the scientific and donor communities to share knowledge and experiences as well as build consensus on the future directions in health and demographic research in LMICs.

Participants at the 11th ISC

More than 350 participants from 28 countries across five(5) continents attended the conference and actively participated in the sessions at the Joaquim Chissano International Conference Centre, the venue for the ISC. There were also 20 young scientists fully/partially funded by INDEPTH Network who participated in a pre-conference working session with members of INDEPTH's Scientific Advisory Committee to sharpen their presentations before the main conference.



Group photograph of 2011 ISC Participants with President Guebuza of Mozambique (fourth left in front row)

Opening Ceremony

The uniqueness of the 2011 ISC was aptly demonstrated when no less a personality than the President of the Republic of Mozambique himself, His Excellency Armando Guebuza performed the opening ceremony.

The ceremony was held amidst electrifying drumming and dancing and beautiful choral renditions by a choir from Manhica. In attendance were several dignitaries including ministers of state.

The President in his speech congratulated all HDSSs for their immeasurable contribution over time to the fight against diseases and to improving understanding of new pandemics that threaten the lives of mass populations in low-and middle-income counties (LMICs). He expressed his government's commitment to invest more in health-care in particular and health research in general.

Reiterating the Network's position on the need for increased data sharing, the Executive Director of INDEPTH, Prof. Osman Sankoh said INDEPTH was committed to fair and responsible sharing of quality data from its health research activities. He thanked the President for honouring the invitation and for staying throughout the ceremony.

In a keynote address the renowned innovative thinker, co-founder/chairman of Gap Minder Foundation and developer of the Trendalyzer software system, Hans Rosling, challenged INDEPTH member centres to freely and willingly share more of their quality health research data so that populations of LMICs would benefit from research-based health policies.

There was also a presentation by Dr. Eusebio Macete, Director of Manhica Health Research

Centre, on HDSS work in Mozambique, while the Chairman for the function H.E. Dr. Pascoal Mocumbi, former Prime Minister of Mozambique and chair of the MCTA Management Board, commended the Manhica centre for successfully hosting the ISC. He said it was a clear indication of the centre's growth and maturity over the years.

Other presentations and speeches were delivered by various invited and special guests including INDEPTH Board Chair, Dr. Kayla Laserson, Site leader of Kisumu HDSS (Kenya). They all lauded the work of INDEPTH and its contributions to health research and the advancement of demographic surveillance.



H. E. President Guebuza of Mozambique delivering his address

Scientific Presentations

In keeping with previous practice the 2011 ISC featured several scientific presentations that were delivered in plenary and parallel sessions by scientists and their affiliates from INDEPTH's member Health and Demographic Surveillance Systems (HDSSs) across Africa, Asia and Oceania and elsewhere. In all there were a total of 15 parallel and plenary sessions on a wide range of contemporary health and demographic surveillance research, as well as

on networking strategies. There were also poster presentations especially by the young scientists.

Five (5) plenary scientific sessions were held with very high attendance. They were as follows:

INDEPTH Projects 1 & 2

Methods and Measurements for HDSS

Research Data Sharing: pros and cons

New Collaborations: An INDEPTH Strategy to Success

By all indications the session on the pros and cons of sharing research data was the most highly patronised. This was anticipated in view of the high interest in research and research capacity in LMICs and the corresponding ability of researchers of the global south to engage in secondary data analysis for policy development.

The debate was organised against the backdrop of two major position papers/joint statements on data sharing within the scientific community. Panellists included representatives of funding and development cooperation agencies, African research councils, African health research institutions and international NGOs and networks.

The Annual General Meeting

The Annual General Meeting took place on Wednesday, 25th October. Of the 42 full member HDSSs of the INDEPTH Network, 35 were represented. Only seven (7) members were absent: an indication of the Network's success over the years to mobilise its member sites to participate in robust discussions on challenges and opportunities as well as strategies for the future and the network's potential to make significant contributions to health policy dialogue globally.

The meeting was conducted under the supervision of the Board Chair, Prof. Osman Sankoh, INDEPTH Executive Director, on

behalf of the Board and Secretariat presented the State of the Network address in which he announced very innovative developments in the structure and direction of the network including the holding of the ISC every two years instead of annually. The AGM however would remain an annual event.



Prof. Sankoh the Executive Director of INDEPTH delivering the state of the Network address

Election of New Board Members

There was election of new board members. Prospective candidates made brief presentations about themselves and their ability to serve on the board. The following five (5) candidates contested the four (4) vacancies on the board:

Dr. Sanjay Juvekar, Vadu HDSS, India
 Prof. Kathleen Khan, Agincourt HDSS, South Africa
 Dr. Eusebio Macete, Manhica HDSS, Mozambique
 Dr. Honorati Masanja, Rufiji HDSS, Tanzania
 Prof. Nguyen T.K. Chuc, Filabavi HDSS, Vietnam

At the end of the keen contest which had to go into a second round for a run off, Dr. Sanjay Juvekar, Vadu HDSS, India and Dr. Honorati

Masanja, Rufiji HDSS, Tanzania were re-elected, while Prof. Kathleen Khan, Agincourt HDSS, South Africa and Dr. Eusebio Macete, Manhica HDSS, Mozambique were the two newly elected members. The new Board then elected Dr. Marcel Tanner, Director, Swiss Tropical and Public Health Institute, Switzerland as its Chair.



New board members from Oct. 2011

Scientific Prizes

Over the years, INDEPTH's process for awarding prizes in recognition of the best posters as well as best published work is a highly selective one involving rigorous vetting and screening by members of the INDEPTH Scientific Advisory Committee (SAC). As a result the research activities that make it into the winning bracket are the ones that use HDSS data to demonstrate the greatest potential to impact policy and provide new research directions. Not surprisingly, the 2011 winners represented the crème de la crème and were indeed truly deserving of the recognition they received. The prize winners in the various categories and their winning works were as follows:



Prof. David Ross awarding one of the prize recipient

INDEPTH Prize for Extraordinary Research in Population and Health (this flagship award carries a cash prize of US\$2,000)

Jointly Awarded to:

1. Mary HAMEL and colleagues.

Title: *"A reversal in reductions of child mortality in Western Kenya, 2003-2009"*. American Journal on Tropical Medicine and Hygiene 2011 - This paper draws directly on the HDSS core mortality data linked to health facility data on drug supply and showed that mortality among under fives, which had declined substantially over the years from 241/1000 live-births in 2003 to 137/1000 live-births in 2007, increased to 212 /1000 live-births in 2008. Malaria and/or anaemia accounted for the greatest increases in child mortality, and the increases in child mortality were associated with stock-outs of antimalarial drugs.

2. Daniel FEIKEN and colleagues.

Title: *"Mortality and health among internally-displaced persons in western Kenya following post-election violence, 2008: novel use of demographic surveillance"*. Bull WHO 2010 - This paper draws on the same HDSS core mortality data, but this time it is linked to both the migration status of the individuals and data on hospital admissions in the district hospital within the HDSS area. Between

December 2007 and May 2008 over 16,000 internally-displaced people migrated into the health and demographic surveillance area because of election-related violence, and the majority of them stayed for at least 6 months. The study showed that mortality among displaced adults aged 15-49 yrs. was 34% higher than among residents, and this difference was of borderline statistical significance. And although there was no excess mortality among displaced children under five years of age, they suffered almost three times as many hospitalisations.

Both winners are from the KEMRI-CDC Kisumu HDSS and the papers both draw directly on the core demographic data collected within the HDSS thereby effectively demonstrating the potential of using these data to identify and explain changes in mortality through linkage with other complementary data collected within the health system.

Prize for the Best Poster by Young Scientists

Awarded to:

Carolyn NDILA and colleagues (KEMRI-WellcomeTrust Research Programme, Kilifi, Kenya).

Title: *"Verbal autopsy as a potential tool to identify children dying of sickle cell disease in a rural population in Kilifi"*.

Close Runner-up:

Vijendra INGOLE (Vadu HDSS, Pune, India)

Title: *"Effects of meteorological factors on mortality and migration: A time series analysis of Vadu HDSS India (2004-2009)"*.

Prize for the Best Poster by Established Scientists

Awarded to: Almamy Malick KANTE (Ifakara HDSS, Tanzania).

Title: *"An assessment of the relative*

contributions of household economics, maternal educational attainment and health service accessibility to rapid child mortality decline in three rural Tanzanian districts”.

Close Runner-up:

Alex Nartey and colleagues (Dodowa Health Research Centre).

Title: *“Increasing household access to improved water and basic sanitation and implications for better health in a rural district of Ghana”.*

The Network looks forward to seeing more scientists from its member sites conducting extraordinary policy relevant research that will ultimately result in improving the well-being of populations in LMICs. Congratulations to all prize winners.

Poster Exhibitions

As is usually done during the ISC, an exhibition was mounted. Twenty three INDEPTH member sites and potential members displayed site profiles providing an opportunity for participants to view these profiles during breaks between the sessions. Young scientists sponsored by INDEPTH to the AGM purposely for poster presentations also displayed their posters. The host site Manhica HDSS also took the opportunity to exhibit its scientific products.



Participants viewing the displayed posters

Presentation of Service Awards

As part of the celebrations, there was a colourful reception at which a number of individuals received awards for their various contributions to INDEPTH. They were presented with plaques as follows:

- Dr. Kayla Laserson: for outstanding contribution to INDEPTH Network as Chair, Board of Trustees (2010–2011)
- Professor Peter Aaby: for outstanding contribution to INDEPTH Network as Member, Board of Trustees (2009–2011)
- Dr. Pascoal Mocumbi: for outstanding contribution to INDEPTH Network as Chair, MCTA Governing Council (2006 – 2011)
- Dr. Hassan Mshinda: for outstanding contribution to INDEPTH Network as the First Principal Investigator of the INESS project (2008–2011)
- Professor Stephen Tollman: for leading the INDEPTH-WHO/SAGE study to a successful completion (2003–2011)
- Professor Fred Binka: for leading the INDEPTH MCTA project to a successful end (2006–2011)
- Dr. Ayaga Bawah: for leading the INDEPTH Demographic and Health Transitions project to a successful completion (2009–2011)
- Dr. Peter Waiswa: for outstanding contribution to INDEPTH Network for raising resources for the INDEPTH Newborn Working Group to meet and hold discussions at the ISC in Accra (September 2010)

Meet the Press

Members of the Mozambican press and representatives of some international media participated in a press conference that was addressed by INDEPTH Executive Director, Prof. Osman Sankoh and Dr. Eusebio Macete, Director of Manhica HDSS.

Drs. Sankoh and Macete both outlined the importance of the theme for the conference and briefed the media on the expected outcomes. Dr. Sankoh gave the assurance that INDEPTH would continue to seek new collaborations that would enable it extend more support to its member centres to conduct population-based, policy-relevant research that would directly impact on the lives of people and raise the living standards of the critical mass of populations of LMICs.

On his part, Dr. Macete noted that the government of Mozambique had been very supportive of the work of the Manhica Health Research Centre and invited the media to show greater interest in health related issues so that more people would be educated on the need to be health conscious. This he said would attract policy makers to focus on the need to utilise research findings for effective policy formulation.



Dr. Eusebio Macete (right) addressing the press

Field Trip

One of the most exciting aspects of the ISC was the field trip to the Manhica Health Research Centre. The trip was conducted through two teams. The first team visited the centre's

facilities including all the laboratories, the Department of Demography, Department of Social Science, Data Centre and the Manhica District Hospital located within the vicinity of the centre.

The second team visited a typical household to observe the procedures for demographic surveillance and demographic data collection. This group had the opportunity to interact with a family and to get an idea of the socio-economic characteristics of the Manhica population. Additionally they also viewed the use of two different tools for demographic data collection in the field - The "old" tool comprising a paper file with a list of all households and the "new" electronic tool based in a mobile device incorporating all the demographic forms.

A visit to a hospital in particular was very interesting as participants were conducted round by a team of clinicians to see its potential for conducting different trials in order to understand the functionality and importance of morbidity surveillance.

Concluding Remarks

On Wednesday, October 28th 2011 the curtain was drawn on the 11th ISC. The take home messages were very clearly and unambiguously articulated by all those who had a chance to give some remarks. Board and SAC members, collaborators and representatives of funding organisations were unanimous in their calls on INDEPTH to remain focused on its vision by leading a scientific crusade to publish and remain relevant to policy makers.

C Capacity Strengthening and Training Activities

i. Scientific Development and Leadership Programme

The flagship of INDEPTH's capacity strengthening initiatives is the Scientific Development and Research Leadership programme organised through the 18 months MSc programme in Population Field Based Epidemiology. Now in its 7th year, the programme has supported a total of thirty five (35) MSc students since inception.

In June 2011, one student - Ms. Doreen Nabukalu, Iganga/Mayuge HDSS (Uganda) completed the programme and returned to her home country. The programme, operated by the School of Public Health, University of the Witwatersrand, in Johannesburg, South Africa focuses on five areas: epidemiology, biostatistics and data management, demography and other social sciences, information technologies for demographic and health surveillance and leadership.

Currently there are two continuing students: Abdul Ramadhani, Ifakara HDSS, Tanzania and Alfred Manyeh, Dodowa HDSS, Ghana who are scheduled to complete the programme in June 2012.



Abdul Ramadhani
Ifakara HDSS, Tanzania



Alfred Manyeh
Dodowa HDSS, Ghana

ii. Developing a Masters level degree for HDSS data managers or research data Management (RDM) track

Maintaining large scale prospective databases, data archiving, and data sharing in clinical, health and population studies requires well-trained data scientists with a sound understanding of scientific principles and processes in clinical and population-based studies. Consequently, INDEPTH is currently building on its previous Wits University, South Africa initiative to develop a new track in Research Data Management (RDM). This track aims to develop research data management as a specialist qualification with specific reference to HDSS and is expected to be embedded in the existing MSc in Population Field-based Epidemiology.

Graduating data scientists from this programme are expected to lead data management teams, guide data management activities from data collection through to data processing, analyse data for publication as well as developing data structures and applying data management software in collaboration with scientists during the various stages of a research project. To facilitate this new track, INDEPTH HDSS learning centres for the field-based component will be increased from three to five.

iii. Moving Beyond the Masters to Doctoral level training

As a medium to long-term goal to strengthen scientific research leadership and in line with expressed needs, INDEPTH is making every effort to create career paths for young HDSS scientists by facilitating their transition from MSc to PhD level training. One INDEPTH fellow, Ms. Rhouné Ochako, received a fellowship to pursue a PhD at the Regional Institute of Population Studies (RIPS) in Accra,

Ghana under a cost-sharing agreement with RIPS.

All opportunities are being explored to source for funds to extend support to PhD students.

WORKSHOPS

Training workshops are quick to mount and remain a primary vehicle through which specific skills and improved methodological developments are conveyed to the wider membership of the network. The Secretariat places much emphasis on strengthening the capacities of its member centres in order to enhance their scientific and administrative productivity. In this regard in 2011, a comprehensive programme for training was implemented throughout the year. The following workshops were organised for member centres:

i. Young Scientists Writing Workshop

One of INDEPTH's long standing commitments is the training and strengthening of the research capacities of the next generation of

scientists from low-and-middle income countries so as to ultimately increase the scientific productivity of member sites. In keeping with this commitment, every year an average of fifteen young scientists from various INDEPTH member HDSSs are given travel awards to attend and present posters at INDEPTH's scientific conference. As a condition for the travel award to young scientists, they are required to submit to the Secretariat a full draft paper at least a month before the conference. The young scientists who receive sponsorship to the ISC also subsequently qualify to participate in a scientific writing workshop.

In 2011, from 24th to 26th January a scientific writing workshop was successfully held at the Chances Hotel in Ho, Ghana. This workshop brought together 21 young scientists from seven (7) countries. The ultimate objective was to strengthen their capacity to publish their research. More specifically, the writing workshop was to:



Participants at the Scientific Writing Workshop in Ho, Ghana



- Help young scientists in INDEPTH member HDSSs develop the ability to communicate their thoughts effectively through writing;
- Strengthen their skills for writing for peer-reviewed journals;
- Provide an understanding of how the peer-review process works and to enable them gain some experience of peer-review; and
- Facilitate peer-review and feedback on a set of HDSS focused papers among developing country researchers and practitioners.

Facilitated by Ms. Susanne Groener, Managing Editor of Tropical Medicine and International Health (TMIH), a peer-reviewed journal, with complementary facilitation provided by Dr. Martin Bangha Capacity Strengthening and Training Manager and Dr. Ayaga Bawah, then Scientific Research Coordinator of INDEPTH, the two and half-day intensive training workshop exposed the young scientists to techniques of writing intellectual scientific papers that have the potential to influence public health policy. They were also provided with a clear understanding of the peer-review process. Thereafter, these young scientists are expected to apply the knowledge in revising their respective papers to the standard where these will be published in international health journals. From experience this strategy has helped young scientists to get their papers published in peer-reviewed scientific journals. The following member HDSSs were represented at this workshop: Dodowa, Kintampo and Navrongo (Ghana), Ifakara and Rufiji (Tanzania), Kanchanaburi (Thailand), Nouna and Ouagadougou (Burkina Faso), Kisumu (Kenya), Niakhar (Senegal), Ballabgarh and Vadu (India).

ii. Pre-ISC workshop on poster presentation and evaluation

While the idea of making travel grants to young scientists seems to be highly appreciated within the Network, it has been suggested that the ISC should not be seen as a platform for young scientists to practice their presentation skills but also an opportunity for the young scientists to present their posters and receive comments from both peer and senior scientists thereby enabling them improve the quality of their presentations.

On the basis of this, on 23rd October 2011 INDEPTH's SAC members (mentors) hosted a workshop for young scientists at the VIP Maputo Hotel in Mozambique. Participants included young scientists, some HDSS leaders and INDEPTH Secretariat representatives. The focus was on poster presentation and evaluation. The workshop consisted of lectures, presentations/discussions. Prof. Stacey Gage (Tulane University an SAC member) led a presentation on how to prepare posters. This was complemented with a presentation on graphics with special adherence to the Dos and Don'ts by Prof. Peter Byass (Umea University/incoming SAC Chair). There was also a practical component involving poster reviews and critiques of all the young scientists' posters indicating areas of improvement. More importantly, the young scientists were requested to evaluate their own posters based on what they had gathered from the presentations.

iii. Young Scientists Seminar

"Things every young researcher should know from concept to publication" was the theme of a special seminar that was packaged for young scientists during the 11th ISC in Maputo. The basis for organising the seminar is that young researchers with access to HDSS data have enormous potential to launch their careers as

independent investigators without requiring excessive grants/funds. The aim therefore was to assist young scientists to address some of the key challenges in research such as: identifying novel research questions, developing a research protocol, drafting compelling manuscripts, and identifying appropriate target journals for publication. The session turned out to be one of the major attractions of the ISC and witnessed a heavy turnout even from seasoned scientists. It was conducted by Prof. Cyril Engman (University of North Carolina, USA) and Cheryl Moyer (University of Michigan, USA), under the specific topic: "On the road to independence: Things every young researcher should know from concept to publication". Due to time limitation and in view of the high level of interest expressed a more comprehensive workshop is envisaged in collaboration with the facilitators.

iv. Workshop on Time Series Analysis of Climate Change, Migration and Mortality (CLIMIMO)

Within the framework of the CLIMIMO Working Group, a training workshop on time series methods for relating environmental stressors to mortality and morbidity, and methods to conduct climate change impact assessments based on mortality data from INDEPTH centres was held in Nouna, Burkina Faso from 6-11 February. The objectives of the workshop were to:

- Train health researchers within the INDEPTH Network on the state of the art tools to analyse the effects of weather conditions on mortality and migration
- Enable health researchers within the INDEPTH Network to conduct climate change impact assessments based on

the time series analysis and site specific climate change scenarios

- Prepare and publish the results from site specific analyses conducted during the workshop.
- Lay the ground for future collaboration and joint proposals on climate change, health and migration

The key achievements of the workshop were the insights participants received on the potential implications of climate change on health at the global, regional, national and local levels as well as how to conduct climate change impact assessment using time series models and exposure assessment methods.

In addition to several collaborators and facilitators, participants to the workshop were from 12 INDEPTH member HDSSs in seven countries. These were:

Kintampo and Navrongo HDSS (Ghana), Magu and Rufiji HDSS (Tanzania), Nanoro, Sapone, and Nouna HDSS (Burkina Faso), Kisumu and Nairobi HDSS (Kenya), AMK (Bangladesh), Rakai HDSS (Uganda), and Vadu HDSS (India).

v. Data preparation and analysis workshop on Multi-site Analysis of Dynamics in Migration and Health (MADIMAH)

Migration is emerging as an increasingly important field of study in public health. People migrate to pursue better options and in so doing change their health risks and access to health resources. Migration is very prominent in many INDEPTH settings and needs to be studied to determine the impacts on health interventions, project implementation and evaluation. Without controlling for migration, other measures of health and population dynamics cannot be accurately estimated.



Under the auspices of the Migration and Urbanisation Working Group, a data preparation workshop was held in Accra from 16th to 21st April to launch the second phase of MADIMAH. The overall aim was to use existing data from fifteen HDSS sites in Africa and Asia to analyse the migration and health dynamics. Specifically the workshop was to:

- Take stock of available site data
- Prepare a residency file for each site
- Convert this to a 'long' format that is adequate for event history analysis
- Check the consistency of dates and sequences of events
- Learn to set the data for event history analysis using Stata's 'ST' suite of commands
- Learn how to graph and tabulate out-migration and mortality indicators

Participants learned how to examine the temporal consistency of the available databases and how to structure and set the data for event history analysis. They also gained insight into computation and interpretation of graph migration and mortality rates. As an immediate outcome, thirteen (13) out of the fifteen (15) participating sites were able to accomplish the workshop goals.

In addition to the facilitators and members of the Secretariat, the workshop was attended by 20 participants from 14 INDEPTH member HDSSs in 9 countries. The member HDSSs represented at this workshop were: Agincourt and Dikgale (South Africa), Butajira (Ethiopia), Kintampo and Navrongo (Ghana), Kaya, Nanoro, Nouna and Ouagadougou (Burkina Faso), Kanchanaburi (Thailand), Kisumu and Nairobi (Kenya), Manhica (Mozambique), Matlab (Bangladesh), and

Vadu (India).

vi. 2nd MADIMAH analytic workshop

As a follow up to the data preparation and analysis workshop, a three-day analytical workshop was held at the VIP Maputo Hotel from 28-30 October. The focus was on event history analyses (micro-data longitudinal analysis) for migration, mortality and fertility studies. 14 member centres were represented at the workshop which had the following aims:

- Produce annualized demographic indicators (in and out migration, mortality, fertility)
- Work towards centre-specific and multi-centre articles on the determinants of migration leading to centre specific and multi-centre articles on migration and mortality
- Establishing migration and fertility links with data sharing group and data quality efforts

During the workshop, selected SAC members supported the participants to work on their own data and report on the following: how data inconsistencies have been resolved, improvements in data quality and data consistency matrix for the database done during the first workshop (Accra) to demonstrate the before and after quality levels in the data. Participating sites also worked on the percentage of data records that have been deleted and the percentage of inconsistencies remaining. Additionally comments were invited on the nature of the remaining inconsistencies. Finally they were to produce by calendar year, since the onset of data collection until the most recent year, ages and sex profiles of mortality rates, out-migration rates and in-migration rates.

Member HDSSs represented at this workshop were: Filabavi (Vietnam), Agincourt and Dikgale (South Africa), Butajira (Ethiopia), Dodowa, Kintampo and Navrongo (Ghana), Nouna and Ouagadougou (Burkina Faso), Kisumu and Nairobi (Kenya), Manhica (Mozambique), and Matlab (Bangladesh).

vii. Verbal Autopsy (VA) data preparation and analysis workshop: INDEPTH-ALPHA collaboration

The main goal of the INDEPTH-ALPHA collaboration is to improve the analysis of cause of death information in LMICs. With support from the Health Metrics Network under the MoVE-IT programme, this collaboration aims to implement a set of practical steps to improve the accuracy of existing VA instruments and make the data simpler to collect and code, thereby ensuring that the use of the techniques in national civil registration schemes will be robust and sustainable. In line with the collaboration, an ALPHA fertility workshop in Mwanza, Tanzania from 4th – 8th April was expanded to include a discussion of VA data required for a joint major analytic workshop. It also effectively discussed the use of interVA in cause of death (CoD) analysis. This was followed by a joint INDEPTH-ALPHA workshop on VA data preparation and analysis in Kisumu, Kenya from 3rd-7th October with the aim of investigating the identification of maternal deaths and adult AIDS deaths (in both sexes) in verbal autopsies, and improving computerised analytical procedures for assigning deaths to these categories in demographic surveillance studies. Other objectives were to:

- Review each HDSS's adult VA data with specific reference to detailed reports of signs and symptoms as well as

causes ascribed by clinician review in order to ascertain maternal deaths with particular attention to agreement between physician coding of cause of pregnancy-related death and interVA coding of causes of pregnancy-related death

- Discover AIDS deaths with particular attention to agreement between physician coding of HIV-related death and interVA identification of AIDS as most likely cause of death
- Form pooled datasets for further analysis in order to compare pregnancy related death rates by HIV-status of mother with death rates by HIV-status of women who were not pregnant or six weeks post partum, calculate the proportion of pregnancy related deaths in HIV positive women that are clearly maternal deaths with direct obstetric causes, the proportion with HIV clearly as an underlying cause, the proportion with other causes (e.g. accidents and violence) and the proportion that cannot be unambiguously classified
- Consider what changes to algorithms or Bayesian priors may be required to improve computer diagnoses of most likely cause of death.

Forty eight (48) participants from 20 sites (16 African and 4 Asian) attended the workshop. Facilitation was provided by the London School of Hygiene and Tropical Medicine (LSHTM), Umea University and the University of The Gambia. Topics covered included:

- An overview of VA questionnaires in use in HDSS sites
- Use of computer procedures for analysing VA

- Inputs and outputs of the beta test version of the InterVA-4 package
- Descriptive analyses of cause of death in broad groupings
- Challenges of interpreting clinician “diagnoses” of VA reports
- Use of HDSS episode data in mortality analysis and HIV impact on age-specific mortality rates
- Definition and identification of pregnancy-related and maternal deaths in HDSS and using InterVA-4
- Sensitivity and specificity of symptoms linked to AIDS deaths classifying pregnancy-related and maternal deaths by HIV status
- Deriving mortality rates for pregnant and post-partum (PPP) and non-PPP women by HIV status

At the end of the workshop participating sites were able to run InterVA-4 (beta version) on their own data, and reproduce the cause of death analysis and the AIDS symptom analysis. Additionally all the HDSS sites that conducted HIV sero-surveys were able to classify pregnancy related deaths by HIV status. Work was also initiated on the writing of 4 policy briefs on the topics: *Adapting VA*

approaches for use in (sample) vital registration, The contribution of HDSS research to global estimates of maternal mortality, Explaining the variation in death rates between pregnant and non-pregnant women, The problems of identifying AIDS deaths in VA. The policy briefs were published in December with the aim of explaining to non-technical audiences the importance of the research work being undertaken by the two institutions.

viii. Workshop on multi-site analysis of dynamics of household structure
By undertaking continuous health and demographic monitoring of geographically-defined populations over long periods of time, INDEPTH provides a platform not only for reviewing health systems and proposing innovations but also for tracking and evaluating social, economic, and behavioral and health patterns. This was demonstrated at a strategic workshop held in Addis Ababa (Ethiopia) and hosted by Butajira HDSS from the 24-26 August, 2011. The theme of the workshop was “Multi-centre Study on Household Dynamics: Using the INDEPTH platform to identify and assess changes in



Kisumu workshop participants

household structure and equity and contribution to achieving the Millennium Development Goals". It provided an opportunity to examine INDEPTH HDSS data on changes in household structure and equity and how such data can be used to measure the levels of MDGs in countries of Africa, Asia and Oceania. The overall aim of the workshop was to create a platform for analysing the impact of household structure changes on child well-being and female reproductive behaviour within the INDEPTH Network. More specifically, it had the following objectives:

- To standardise definitions of concepts: households, family, poverty
- To standardise tools that will enable comparison between sites;
- To develop a full proposal including background, data collection and analysis methods, timetable and dissemination strategies.

The workshop had 20 participants from 14 sites in 8 countries. In addition to presentations there was feedback from the analysis of a questionnaire completed by the sites. New variables were also proposed for inclusion in the data collection to ensure effective analysis. The presentations were on data collection, compilation and dissemination of disaggregated social data. Three thematic areas were discussed at working group level:

- Patterns and reasons for change in household structure
- Linkages between changes in household structure and children's outcome
- Changes in household structure and women's reproductive health.

A key outcome of the workshop was the drafting of a budget, timetable and strategies for the way forward. Participants agreed on a



Participants who attended the workshop in Accra

time frame of six months for additional retrospective data collection and data positioning. They also agreed on cross sectional data collection with analysis to begin immediately after cleaning of the data.

ix. Communication Workshop

A workshop was organised from April 5th - 7th 2011 for communications officers to equip them with skills to promote effective interaction with the media and to package scientific information for public consumption and use. The participants were assisted to develop effective and realistic communication strategies for their sites. The objectives of the workshop were as follows:

- Making effective use of the media to promote the work of your HDSS and the work of INDEPTH Network generally
- Packaging scientific information to make it meaningful to stakeholders, the public other end users

- Preparing and making effective presentations
- Developing a sustainable two-way communication channel between scientists and the public
- Designing and developing appropriate and qualitative communication strategies for short, medium and long term implementation.

Nineteen (19) participants, mainly communication officers and scientists with demonstrated interest in information dissemination from 19 member sites attended the workshop. The following HDSSs were represented: Chililab, DodaLab and Filabavi (Vietnam), Dikgale (South Africa), Dodowa, Kintampo and Navrongo (Ghana), Ifakara (Tanzania), Iganga Mayuge (Uganda), Kanchanaburi (Thailand), Kaya, Nanoro, Nouna and Ouagadougou (Burkina Faso), Kisumu (Kenya), Manhica (Mozambique), Matlab (Bangladesh), Rakai (Uganda), and Vadu (India).



Participants who attended the communication workshop in Accra

x. Workshop for Finance Managers

To underscore INDEPTH's determination to ensure that its member sites are accountable to donors and partners, a 3 day-workshop for finance managers of member sites was organised from July 6th to 8th on the theme: "Building a transparent and credible research institution in the South, the contribution of the Finance Manager." It took place at the Hotel Phoenix, Pune, India for 23 finance managers from various countries in Africa and Asia.

Presentations on various accounting systems and procedures were made with Mr. Sixtus Apaliyah, Finance and Administration Manager at INDEPTH Secretariat presenting on the Code of Ethics of Professional Accountants, Mrs. Felicia Manu Asamoah presenting on the processes for grant making and Messrs. Adam Osman and Raymond Akparibo speaking eloquently about the relevance of IPSAS in public sector institutions.

Dr. Sanjay Juvekar, vice chair of INDEPTH Board of Trustees, opened the workshop with a call on participants to use the workshop to better understand INDEPTH's finance systems so as to be able to manage funds allocated for collaborative and cross-site activities.

The interactive nature of the programme made it possible for new approaches to be shared on financial practices.



Participants who attended the Finance Managers workshop in India

D Secretariat and Administrative Activities

Staff

i. The Secretariat increased in staff strength in 2011 but also lost two of its valued staff who had to move on: Below are the names of staff recruited in the year and those who left:

Recruitments:

Dr. Martin Bangha (Cameroonian)
Capacity for Scientific Research Manager

Samuelina Arthur (Ghanaian)
Research Fellow

Departures:

Dr. Ayaga Bawah (Ghanaian)
Senior Programmes Manager

Dr. Alioune Diagne (Senegalese)
Post-doctoral Fellow

Secretariat Staff Retreat

The Secretariat as part of its annual activities participated in two staff retreats at Akosombo, January 13th–14th, 2011 to formulate a work plan for 2011, and in December 21st – 23rd, plan activities and make projections for 2012.

The two programmes provided an opportunity for staff to take stock of the Secretariat's work and activities and develop strategies and work plans to ensure a fruitful and productive working year ahead. They also provided a platform to review the funding position of the organisation with a view to expanding its financial resource base. Both retreats were held entirely in plenary to afford individual staff members the opportunity to comment and contribute in an open atmosphere.



Secretariat Staff at the Akosombo Retreat

The main presentations and sectional reports were made by the Executive Director and managers as well as some sectional heads. The reports provided an overview of the key strategies used by to implement and advance the vision of each department and the Network as a whole. They also outlined the achievements of the previous year and proceeded to identify new areas of operation and means achieving set targets and goals. Some challenges were also identified.

Overall the staff retreats proved to be very successful. Participation and involvement was very commendable. All staff members made useful comments on various aspects of the discussions and demonstrated keen interest in the immediate and long term activities of INDEPTH.

The reports of the retreats were consolidated into a comprehensive roadmap detailing the strategic direction of the Secretariat in terms of research, analysis, collaborations, fund mobilisation and management, capacity strengthening as well as streamlining administrative practices, systems and procedures.



Board of Trustees in 2011 (Till October 2012)

ii. The Board of Trustees provides the overall oversight for the activities of the INDEPTH Secretariat and the Network as a whole. The Board appoints and supervises the Executive Director. In 2011, the Board was made up of the following members:



Dr. Kayla Laserson
(Outgoing Chair)
INDEPTH Centre Leader, Kisumu, Kenya



Dr. Sanjay Juvekar
INDEPTH Centre Leader,
Vadu, India



Dr. Margaret Gyapong
INDEPTH Centre Leader,
Dodowa, Ghana



Dr. Ali Sie
INDEPTH Centre Leader,
Nouna, Burkina Faso



Dr. Honorati Masanja
INDEPTH Centre Leader,
Rufuji, Tanzania



Dr. Andreas Hedding
Swedish Institute for Infectious
Disease Control, Sweden



Prof. Peter Aaby
INDEPTH Centre Leader,
Bandim, Guinea Bissau



Prof. Marcel Tanner
Director, Swiss Tropical
and Public Health Institute



Prof. Osman Sankoh,
Executive Director, INDEPTH Network
Accra, Ghana



Dr. Kofi Baku
Senior Lecturer,
Univ. of Ghana, (Secretary)

Profile of Incoming Board Chair, Professor Marcel Tanner

Marcel Tanner obtained a PhD in Medical Biology from the University of Basel and an MPH from the University of London. He is currently, Director of the Swiss Tropical and Public Health Institute, Professor of Epidemiology and Medical Parasitology at the University of Basel and also at the Federal Institute of Technology. Since 1977, his research has ranged from basic research on the cell biology and immunology on malaria, schistosomiasis, trypanosomiasis and filariasis to epidemiological and public health research on risk assessment, vulnerability, health impact and district health planning. His research, teaching and health planning expertise are based on substantial long term experience from working in rural and urban areas in Africa (mainly Tanzania, Chad, Burkina Faso and Côte d'Ivoire) and Asia (China, Thailand and Laos).

He was co-investigator and coordinator of the first African malaria vaccine trial in 1992 and has participated as co-principal investigator in several major intervention trials on malaria (iron supplementation, intermittent preventive treatment) and schistosomiasis. Besides research the capacity building and North-South partnership has been a main area of interest as reflected in the development of the Ifakara Health Institute in Tanzania. He has published extensively in many fields (>500 original papers). He also acts as advisor on communicable diseases research and control, health systems strengthening and capacity building for various national and international agencies/bodies and boards/committees such as WHO/STAC-TDR, Wellcome Trust, DNDi, INDEPTH, INCLEN-Trust.

iii. Scientific Advisory Committee

The Scientific Advisory Committee (SAC) provides guidance, scientific review and leadership to the Secretariat and the Board, by maintaining focus on critical health, population and social issues and areas of greatest potential impact. The SAC provides advice and recommendations on the research and development portfolio of the Network.

In 2011, the SAC held two conference calls in January and May. They had one face to face meeting in Maputo, Mozambique on October 22nd during the 11th INDEPTH Scientific Conference (ISC). As an innovation, the SAC organised a workshop for young scientists ahead of the INDEPTH Scientific Committee. The convenor was Prof. Rosalia Sciortino.

The workshop format enabled each young scientist to have what could be described as a "SAC Mentor" who reviewed the individual papers and provided guidance on revisions for eventual publication. The SAC members also placed themselves at the disposal of the Young Scientists for one-on-one sessions.

A number of SAC members relinquished their membership in 2011 and were duly replaced. The SAC now has a current membership of 15 distinguished scientists and researchers.



SAC Members in 2011



Prof. David Ross, Chair
U.K.



Prof. Rosalia Sciortino, Vice-chair
Indonesia



Prof. Anastasia Gage, Member
USA



Dr. Halima Mwenesi, Member
USA



Prof. Don De Savigny, Member
Switzerland



Prof. Sam Clark, Member
USA



Dr. Cheikh Mbacke, Member
Senegal



Dr. Ime Asangassi, Member
Norway



Prof. Lucy Gilson, Member
South Africa



Mr. Dave Gwatkin, Member
USA



Prof. Peter Byass, Member
Sweden



Prof. Ruth Bonita, Member
New Zealand



Dr. Jeroen van Ginneken
The Netherlands

CENTRE LEADERS



Prof. Seni Kouanda
Kaya HDSS, Burkina Faso



Dr. Ali Sie
Nouna HDSS, Burkina Faso



Prof. Banza Baya
Ouagadougou HDSS, Burkina Faso



Prof. Halidou Tinto
Nanoro HDSS, Burkina Faso



Dr. Sodiomom Sirima
Sapone HDSS, Burkina Faso



Dr. Margaret Gyapong
Dodowa HDSS, Ghana



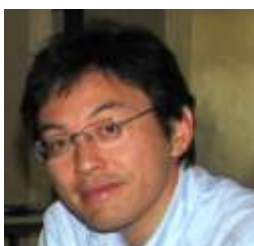
Dr. Seth Owusu-Agyei
Kintampo HDSS, Ghana



Dr. Abraham Oduro
Navrongo HDSS, Ghana



Dr. Kayla Laserson
Kisumu HDSS, Kenya



Prof. Satoshi Kaneko
Mbita HDSS, Kenya



Prof. Thomas Williams
Kilifi HDSS, Kenya



Dr. Alex Ezeh
Nairobi UHDSS, Kenya



Prof. Shabbar Jaffar
Karonga HDSS, Malawi



Dr. Valerie Delaunay
Bandafassi and Mlomp
HDSS, Senegal



Dr. Aldiouma Diallo
Niakhar HDSS, Senegal



CENTRE LEADERS



Dr. Salim Abdulla
Ifakara HDSS, Tanzania



Dr. Honorati Masanja
Rufiji HDSS, Tanzania



Mr. Mark Urassa
Magu HDSS, Tanzania



Prof. Nelson Sewankambo
Rakai HDSS, Uganda



Prof. Elizeus Rutemberwa
Iganga/Mayuge HDSS, Uganda



Dr. Momodu Jasseh
Farefenni HDSS, Gambia



Mr. Bakary Sonko
West Kiang HDSS, Gambia



Prof. Peter Aaby
Bandim HDSS, Guinea Bissau



Dr. Mitike Molla
Butajira HDSS, Ethiopia



Dr. Eusebio Macete
Manhica HDSS, Mozambique



Prof. Steve Tollman
Agincourt HDSS, South Africa



Prof. Marriane Alberts
Dikgale HDSS, South Africa



Dr. Abraham Jakobus Herbst
Africa Centre HDSS, South Africa



Prof. Shashi Kant
Ballabgarh HDSS, India



Dr. Sanjay Juvekar
Vadu HDSS, India

CENTRE LEADERS



Dr. Tran Huu Bich
Chililab HDSS, Vietnam



Dr. Tran Khan
DodaLab HDSS, Vietnam



Prof. Nguyen T. K. Chuc
Filabavi HDSS, Vietnam



Dr. Wasif Khan
Bandarban HDSS, Bangladesh



Dr. Kim Streatfield
Matlab HDSS, Bangladesh



Dr. Suparat Phuanukoannon
Wosera HDSS, Papua New Guinea



Dr. Poch Bunnak
Mekong HDSS, Cambodia



Prof. Sureeporn Punpuing
Kachanaburi HDSS, Thailand



Prof. Siswanto Wilopo
Purworejo HDSS, Indonesia



Dr. Abbas Bhuiya
Chakaria HDSS, Bangladesh



Dr. Nurul Alam
AMK HDSS, Bangladesh.



iv. SHARING INDEPTH DATA

INDEPTH Shared Access Repository - iSHARE
The INDEPTH Shared Access Repository (iSHARE) (www.indepth-ishare.org) programme which was successfully launched in 2008 using three Health and Demographic Surveillance System (HDSS) sites in Asia: Vadu (India), Kanchanaburi (Thailand) and Wosera (Papua New Guinea) made some significant progress in the year 2011.

Four additional member centres: Nairobi HDSS (Kenya), Chakaria HDSS and AMK HDSS (Bangladesh), and Chililab HDSS (Vietnam) achieved various levels of admission onto the platform which has the broad objective of strengthening data collection systems within INDEPTH sites and facilitating the sharing of data collected from heterogeneous sources on a web-based repository in a common format.

With the submission of datasets up to year end, Nairobi HDSS for example reached the stage of extraction, transformation and loading (ETL) which will be followed by uploading onto the iSHARE repository. During the year, a tool for automation of extraction, transformation and loading (ETL) was completed to assist member sites in uploading and cleaning of their datasets. The tool is undergoing rigorous testing.

Vadu HDSS became the first example of an HDSS with metadata documentation in DDI-2 and this is to be emulated by the other HDSSs. Documentation of iSHARE and a user manual to help new users navigate their way through the platform was also developed in the course of the year. Additionally, under the capacity strengthening umbrella, data integration is ongoing at the Wosera HDSS (Papua New Guinea).

Finally the year 2011 saw the development of the Centre-in-a-Box (CiB) prototype signifying the next phase of data sharing with Vadu HDSS as the testing ground.

Ethics of Data Sharing

Sharing health research data has become a matter of interest to many stakeholders across the world. More recently a group of funders and research sponsors/donors in high income countries issued a statement outlining their position on the issue.

The basis for the statement which seeks to make a strong case for data sharing is that it would accelerate formulation of policy for improved public health. Guided by the conviction that sound decision-making based on solid scientific evidence is critical for strengthening health systems and improving population health outcomes, and realising that the sharing of public health data is ethical, vital and beneficial, INDEPTH and COHRED co-organised a seminar on sharing public health research data to deliberate on how best to share data from their member HDSSs across Africa, Asia and Oceania and to review its position on the matter so as to align it with the concerns of researchers in low-and-middle income countries. The seminar was held in Kenya's capital city Nairobi and was attended by 22 out of the 42 health and demographic surveillance systems that constitute the INDEPTH Network.

A key outcome was a draft position statement on sustainable sharing of public health data. The statement reiterates the two institutions support for sustainable and ethical sharing of research data between stakeholders in countries of the north and the global south. The position statement is published on the

websites of INDEPTH www.indepth-network.org and COHRED www.cohred.org



Group photo of participants in Nairobi

INDEPTH Data Access and Sharing Policy
INDEPTH Network is a southern-based research network comprising currently of 35 independent member centres running 43 health and demographic surveillance systems (HDSSs). The centres that constitute the INDEPTH Network cover over 3 million individuals across Africa, Asia and Oceania, representing one of the largest sources of longitudinal data and scientific evidence on the health and living conditions of the global south in the world today.

Such valuable data are a public good and sharing them is both *ethical* and *beneficial*. INDEPTH maintains that the ultimate goal of promoting the wide use of data by the scientific community and eventually making more meaningful contribution towards

promoting societal well-being is of great importance. To more fully realise the benefits of sharing its rich datasets, in 2011, the Network set about developing a data access and sharing policy that will ensure that the process of accessing INDEPTH data is guided by a set of sound principles.

To this end the INDEPTH Data Access and Sharing Committee (iDASC) operating under the auspices of the INDEPTH Board met in Nairobi, November 23 and 24, to fashion out a Network wide data access and sharing policy. iDASC is made up of Steve Tollman (Agincourt HDSS), Kobus Herbst (Africa Centre HDSS), Sanjay Juvekar (Vadu HDSS), and Kayla Laserson (Kisumu HDSS) and is under the chairmanship of Alex Ezeh (Nairobi HDSS.)



The emerging draft policy builds on existing network and site specific data access and sharing policy documents. It identifies various categories of data and proposes access levels associated with each as well as the terms, conditions, scope and time frame for their equitable, ethical and efficient access and sharing.

Sooner than later the Network will have a policy that conforms to international best practices and also endorses its position expressed at the July meeting in Nairobi on the ethics of data sharing. It will also reflect the individual members commitment to responsibly, efficiently and widely share public health research data within and beyond the Network in a sustainable manner.

Secretariat's Results Based Management Strategy

In keeping with its tradition of excellence, INDEPTH attaches great importance to monitoring and evaluation (M&E) as a means of measuring results attained in its various activities.

Based on its strategic plan for the period 2010-2014, and with support from the Hewlett Foundation, INDEPTH developed a high quality monitoring and evaluation metrics with clearly defined performance indicators that are in conformity with international results-based management principles.

Most of INDEPTH's funding organisations such as Sida/globforsk, Bill & Melinda Gates Foundation, DANIDA, Hewlett Foundation, IDRC, Rockefeller Foundation, Wellcome Trust, NIA/WHO and others rely on information provided in M&E metrics to assess the status of performance and extent of execution of result oriented activities.

Following preparation of a draft M&E/RBM

metrics for various categories of INDEPTH's stakeholders - Board, Scientific Advisory Committee, Secretariat, Working Groups and Site leaders, a workshop was held in July 2011 for Secretariat staff to collectively refine the draft logical framework and to discuss key concepts to enable a clear analysis of current plans, results, indicators and means of verification.

Working with a consultant, the staff successfully prepared an RBM compliant logical framework which was subsequently applied to monitor implementation of activities in the second half of the year and to conduct an end of year evaluation of the general activities of the Network.

Supporting Member Centres through Sub-Grants

Every year INDEPTH awards a number of sub-grants to its members to support and advance participation in cross-site and multi-site scientific research. During the year 2011, the Secretariat awarded an appreciable number of sub-grants to deserving members to enable them foster research collaboration and to support research capacity development. The following sub-grants were awarded:

i. Sub-grant for WebGIS using Geoserver - an Open Source Software

The project was undertaken by Wosera HDSS (Papua New Guinea), Dikgale HDSS (South Africa) and Vadu HDSS (India), to explore the potential of an open source GIS application that would enable the beneficiary sites strengthen their health and demographic surveillance system and publish data and maps. As an immediate outcome of the facility, the participating sites are able to visualise and interact with their maps through dynamic queries using the open source WebGIS (Geoserver) application. A prototype was presented at the 11th ISC in Maputo.

ii. Sub-grant for INDEPTH data sharing initiative

For INDEPTH to position itself as a “single international window” for credible, quality data thereby making it the point of “first call” by bilateral and multilateral international organisations, a sub-grant was made available for the development of a prototype for sharing information/data efficiently among sites and to put same in the public domain. INDEPTH has now built capacity by training data managers and site scientists in data sharing through a standardised system.

iii. INDEPTH/ALPHA collaboration sub-grant

With funding from World Health Organisation (WHO) through the Health Metrics Network, an INDEPTH Network-ALPHA collaboration was established to accelerate a major initiative to strengthen the monitoring of vital events. Sub grants were awarded to 10 members: Dodowa, Kintampo and Navrongo HDSS (Ghana), Vadu HDSS (India), Nairobi and Kisumu HDSS (Kenya), Matlab and AMK HDSS (Bangladesh), Agincourt HDSS (South Africa) and Ifakara HDSS (Tanzania) to work extensively on analysing INDEPTH Verbal Autopsies (VA) using a modified version of interVA as a new strategy. The ultimate goal of this effort is to assess the acceptability and feasibility of performing post-mortem examinations.

iv. Sub-grant for developing capacity for Tuberculosis

A modest sub-grant was made to three members: Vadu HDSS (India), Karonga HDSS (Malawi), and Bandim HDSS (Guinea Bissau) to participate in a cross-site study that evaluated the TB burden and associated TB risk factors. The grant also facilitated capacity building in collecting, managing and analysing TB surveillance data. A joint paper based on this study will be available for publication in a peer-reviewed journal.

v. Sub-grant for suspected tuberculosis-but never diagnosed and treated

A grant was awarded to four member sites to participate in a study to generate data across two continents to document the quantum of undiagnosed TB in the following sites: Bandim HDSS (Guinea Bissau), Kisumu HDSS (Kenya), Filabavi HDSS (Vietnam) and Karonga HDSS (Malawi).

vi. INDEPTH cross-site capacity development program sub-grant

Nouna HDSS (Burkina Faso) was supported to undertake an exchange program at Niakhar HDSS (Senegal). The purpose was to expose the team to research techniques and offer an opportunity for dialogue and exchange of knowledge. This enabled the participating fieldworkers to acquire experience and skill in specific aspects of research. The training served the purpose of assisting Nouna HDSS where there had been major expansion of research portfolio to acquire new ideas and techniques.

vii. Sub-grant for the 11th INDEPTH Scientific Conference

The 11th ISC held in Maputo, Mozambique is a flagship activity conducted yearly to bring together scientists from INDEPTH members and their collaborators to share new research findings. This year a sub-grant was awarded to Manhica HDSS to cover costs for organising the conference. The grant enabled the Secretariat to fully cover the cost of participation for fifty seven (57) scientists to make oral presentations to make as well young scientists to exhibit posters.

E

Notable Visitors to the INDEPTH Secretariat

<u>Name</u>	<u>Organisation</u>
Paul Rosenberg	Hewlett Foundation
Eric Brown	Hewlett Foundation
Masamine Jimba	University of Tokyo
Hotta Moeno	Ministry of Foreign Affairs (Japan)
Sayako Kanamore	Ministry of Foreign Affairs (Japan)
Hisanobou Mochizuki	Embassy of Japan in Ghana
Aska Tekawa	Embassy of Japan in Ghana
Shinichi Honda	Embassy of Japan in Ghana
Nobue Amanuma	Embassy of Japan in Ghana
Satoru Watanabe	JICA
Tukufu Zuberi	University of Pennsylvania
Pali Lehola	Statistics South Africa (Stats SA)
Cyril Engman	University of North Carolina
Cheryl Moyer	University of Michigan
Keri Bolding	Resource Media (USA)
Cat Lazaroff	Resource Media (USA)
Didier Lapieire	GlaxoSmithKline Biologicals
Edith Roset-Bahmanyar	GlaxoSmithKline Biologicals
Bianca Escobar	GlaxoSmithKline Biologicals



Cyril & Cheryl with Prof. Sankoh at secretariat



Embassy of Japan officials visit the Secretariat



Hewlett visit to the Secretariat



Prof. Tukufu Zuberi 3rd left, Pali Lehola Stats SA 2nd right and Dr Philomena Nyarko 2nd right Ghana Statistical Service with Prof. Sankoh and Mrs Jeannette. Quarcoopome



Officials from GlaxoSmithKline visit the Secretariat



Officials from Resource Media visit the Secretariat

Staff of the INDEPTH Secretariat as at Dec 2011

Name	Nationality	Position
Prof. Osman Sankoh	Sierra Leonean	Executive Director
Mrs. Jeannette Quarcoopome	Ghanaian	Communications and External Relations Manager
Dr. Martin Bangha	Cameroonian	Capacity for Scientific Research Manager
Mr. Sixtus Apaliyah	Ghanaian	Finance and Admin. Manager
Mr. Adam Osman	Ghanaian	Accountant
Mrs. Felicia Manu Asamoah	Ghanaian	Grants Administrator
Mr. Titus Tei	Ghanaian	Projects Administrator
Miss Caroline Tekyi-Mensah	Ghanaian	Executive Assistant
Miss Baaba Johnson	Ghanaian	Communications Officer
Miss Gloria Kessie	Ghanaian	Finance Officer
Mr. Francis Ameni	Ghanaian	Information Communications Technology Officer
Miss Belinda Azanu	Ghanaian	Administrative Assistant
Mr. Peter Asiedu	Ghanaian	Administrative Assistant
Mrs. Beatrice Afari Yeboah	Ghanaian	Administrative Assistant
INESS, Ghana		
Prof. Fred Binka	Ghanaian	Principal Investigator
Dr. Bernhards Ogutu	Kenyan	Senior Clinical Trialist
Dr. Rita Baiden	Ghanaian	Clinical Trialist
Mr. Martin Adjuik	Ghanaian	Statistician
Mrs. Margaret Bugase	Ghanaian	Administrative Officer
Mr. Raymond Akparibo	Ghanaian	Accountant
INESS, Tanzania		
Miss Rahima Dossa	Tanzanian	Administrator
Mr. Dan Kajungu	Ugandan	Statistician

F INDEPTH Network Auditors Financial Report 2011

INDEPTH Network
For the year ended 31 December 2011

REPORT OF THE BOARD OF TRUSTEES

The Board of Trustees has the pleasure in submitting the report and the audited financial statements of INDEPTH Network for the financial year ended 31 December 2011.

Statement of the Board of Trustees' responsibilities

The Board of Trustees is responsible for the preparation of financial statements for each financial year, which give a true and fair view of the state of affairs of the Organisation and of the surplus or deficit and cash flows for that period. In preparing these financial statements, the Board of Trustees has selected suitable accounting policies and then applied them consistently, made judgements and estimates that are reasonable and prudent and followed International Public Sector Accounting Standards (IPSAS).

The Board of Trustees is responsible for ensuring that the Organisation keeps proper books of account and accounting records that disclose with reasonable accuracy at any time the financial position of the Organisation. The Board is also responsible for safeguarding the assets of the Organisation and for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Principal activities

The main activities of the Organisation are to conduct longitudinal health and demographic evaluation of populations in low- and middle-income countries, strengthen global capacity for HDSS, co-ordinate and mount cross-national research, and disseminate health information based on up-to-date scientific evidence from different health research centres across the developing world.

Results

The Statement of Financial Performance on page 5 shows a surplus for the year of US\$1,935, 729 (2010 deficit: US\$4,264,229), whilst the statement of financial position on page 6 shows that US\$8,478,067 (2010: US\$6,542,338) was carried forward as accumulated fund at the end of the period.

Auditor

PricewaterhouseCoopers Chartered Accountants has expressed willingness to continue in office as auditor of the Organisation in accordance with Section 134 (5) of the Companies Code, 1963 (Act 179).

BY ORDER OF THE BOARD

Board Chair:

Executive Director:

.....⁰⁹ July 2012

REPORT OF THE INDEPENDENT AUDITOR TO THE BOARD OF TRUSTEES OF INDEPTH NETWORK

REPORT ON THE FINANCIAL STATEMENTS

We have audited the accompanying financial statements of INDEPTH Network set out on pages 5 to 18. These financial statements comprise the statement of financial position as at 31 December 2011, the statement of financial performance, the cash flow statement and the statement of changes in net assets for the year then ended and a summary of significant accounting policies and other explanatory information.

Board of Trustees' responsibility for the financial statements

The Board of Trustees is responsible for the preparation of financial statements that give a true and fair view in accordance with International Public Sector Accounting Standards and with the requirements of the Companies Code, 1963 (Act 179) and for such internal control, as the Board of Trustees determine is necessary to enable the preparation of financial statements that are free from material misstatements whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on the financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Board of Trustees, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the accompanying financial statements give a true and fair view of the financial position of INDEPTH Network as at 31 December 2011 and of its financial performance and its cash flows for the year then ended in accordance with International Public Sector Accounting Standards and in the manner required by the Companies Code, 1963 (Act 179).



REPORT OF THE INDEPENDENT AUDITOR TO THE BOARD OF TRUSTEES OF INDEPTH NETWORK (CONTINUED)

REPORT ON OTHER LEGAL REQUIREMENTS

The Companies Code, 1963 (Act 179) requires that in carrying out our audit we consider and report on the following matters. We confirm that:

- i) we have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit;
- ii) in our opinion proper books of account have been kept by the organisation, so far as appears from our examination of those books; and
- iii) the organisation's statement of financial performance and statement of financial position are in agreement with the books of account.

Michael Asiedu-Antwi

Chartered Accountants

...//... July 2012

Accra, Ghana

Michael Asiedu-Antwi (101032)



STATEMENT OF FINANCIAL PERFORMANCE
 (All amounts are expressed in US dollars unless otherwise stated)

		<u>Year ended 31 December</u>	
	Notes	2011	2010
Operating revenue			
Grants	2	10,656,087	3,985,539
Other income	3	<u>51,519</u>	<u>242,730</u>
Total operating revenue		<u>10,707,606</u>	<u>4,228,269</u>
Meeting expenses	4	452,917	403,040
Scientific workshop and coordination expenses	5	2,823,082	2,139,158
Capacity strengthening workshop expenses	6	373,807	892,749
Annual General and Scientific Meetings	7	480,399	305,116
Sub grants	8	3,651,689	3,285,328
General Secretariat running costs	9	<u>866,184</u>	<u>1,469,155</u>
Total expenditure		<u>8,648,078</u>	<u>8,494,546</u>
Financial income	10	6,218	80,724
Financial expense	11	<u>(130,017)</u>	<u>(78,676)</u>
Net financial (expense)/income		(123,799)	<u>2,048</u>
Surplus/(Deficit)		<u>1,935,729</u>	<u>(4,264,229)</u>

STATEMENT OF FINANCIAL POSITION
 (All amounts are expressed in US dollars unless otherwise stated)

		<u>At 31 December</u>	
	Notes	2011	2010
Non-current assets			
Property, plant and equipment	12	<u>128,227</u>	<u>121,076</u>
Current assets			
Cash and cash equivalents	13	7,129,220	6,173,381
Recoverables from non exchange transactions	14	1,482,715	217,785
Receivables from exchange transactions	15	31,300	35,963
Prepayment	16	<u>26,840</u>	<u>46,224</u>
Total current assets		<u>8,670,075</u>	<u>6,473,353</u>
Total assets		<u>8,798,302</u>	<u>6,594,429</u>
Current liabilities			
Accounts payable and accrued expenses	17	<u>(320,235)</u>	<u>(52,091)</u>
Net assets		<u>8,478,067</u>	<u>6,542,338</u>
Represented by:			
Accumulated fund (page 8)		<u>8,478,067</u>	<u>6,542,338</u>

The financial statements on pages 5 to 18 were approved by the Board of Trustees on⁰⁹ July 2012 and signed on their behalf by:

Board Chair:

Executive Director:

CASHFLOW STATEMENT

(All amounts are expressed in US dollars unless otherwise stated)

		<u>Year ended 31 December</u>	
		2 011	2010
Net cash flows generated from (Used in) operating activities	18	<u>1,003,624</u>	<u>(4,202,656)</u>
Cash flows used in investing activities			
Acquisition of property, plant and equipment	12	<u>(47,785)</u>	<u>(56,359)</u>
Increase/(Decrease) in cash and cash equivalents		<u>955,839</u>	<u>(4,259,015)</u>
Movement in cash and cash equivalents			
Cash and cash equivalents at beginning of the year		6,173,381	10,432,396
Increase/(Decrease) in cash and cash equivalents		<u>955,839</u>	<u>(4,259,015)</u>
Cash and cash equivalents at end of the year	13	<u>7,129,220</u>	<u>6,173,381</u>



The Executive Director of INDEPTH (middle) shaking hands with H.E. President Armando Emilio Guebuza of the Republic of Mozambique at the opening ceremony of the 2011 INDEPTH Scientific Conference in Maputo, Mozambique. Looking on is H.E. Dr. Pascoal Mocumbi, former Prime Minister of the Republic of Mozambique who introduced the President before the Keynote Address was delivered by the President.

INDEPTH Network

Better Health Information for Better Health Policy

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