



# INDEPTH Network

**ANNUAL  
REPORT  
2013**



Better Health Information for  
Better Health Policy

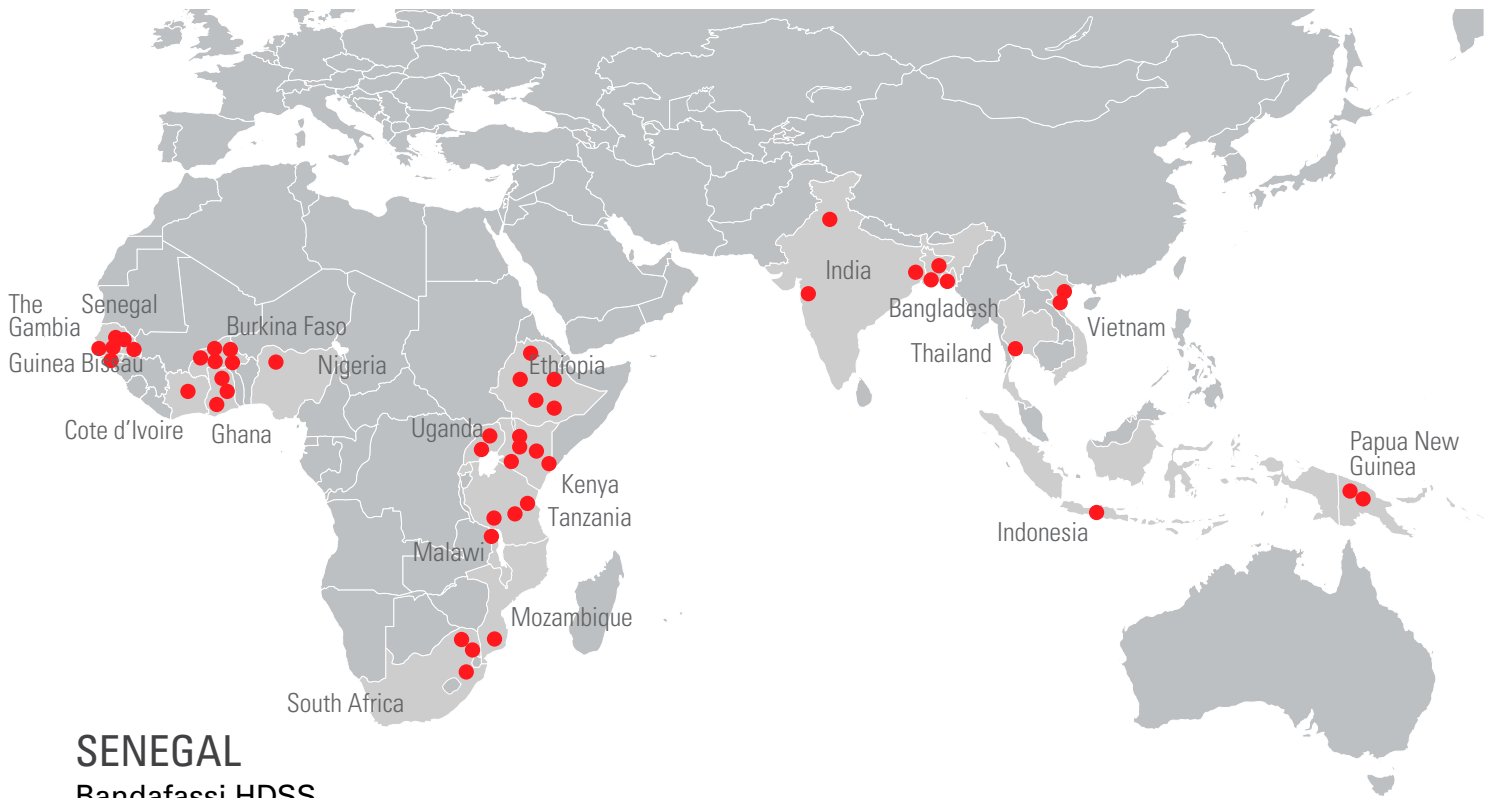
INDEPTH is a global leader in health and population research, providing robust answers to some of the most important questions in development.

INDEPTH Network

# ANNUAL REPORT 2013



Better Health  
Information for Better  
Health Policy



## SENEGAL

Bandafassi HDSS  
 Mlomp HDSS  
 Niakhar HDSS

## THE GAMBIA

Farafenni HDSS  
 West Kiang HDSS

## GUINEA BISSAU

Bandim HDSS

## BURKINA FASO

Kaya HDSS  
 Nanoro HDSS  
 Nouna HDSS  
 Ouagadougou HDSS  
 Sapone HDSS

## NIGERIA

Nahuche HDSS

## COTE D'IVOIRE

Taabo HDSS

## GHANA

Dodowa HDSS  
 Kintampo HDSS  
 Navrongo HDSS

## SOUTH AFRICA

Africa Centre HDSS  
 Agincourt HDSS  
 Dikgale HDSS

## ETHIOPIA

Butajira HDSS  
 Dabat HDSS  
 Gilgel Gibe HDSS  
 Kersa HDSS  
 Kilite Awlaelo HDSS

## UGANDA

Iganga/Mayuge HDSS  
 Rakai HDSS

## KENYA

Kilifi HDSS  
 Kisumu HDSS  
 Kombewa HDSS  
 Mbita HDSS  
 Nairobi HDSS

## TANZANIA

Ifakara HDSS  
 Magu HDSS  
 Rufiji HDSS

## MALAWI

Karonga HDSS

## MOZAMBIQUE

Manhica HDSS

## INDIA

Ballabgarh HDSS  
 Birbhum HDSS  
 Vadu HDSS

## BANGLADESH

Bandarban HDSS  
 Chakaria HDSS  
 Matlab HDSS

## THAILAND

Kanchanaburi HDSS

## VIETNAM

Chililab HDSS  
 Dodalab HDSS  
 Filabavi HDSS

## INDONESIA

Purworejo HDSS

## PAPUA NEW GUINEA

PiH HDSS  
 Wosera HDSS

# TABLE OF CONTENTS

MESSAGE FROM THE EXECUTIVE DIRECTOR	<b>4</b>
INTRODUCTION	<b>6</b>
SCIENTIFIC RESEARCH AND CO-ORDINATION ACTIVITIES	<b>11</b>
CAPACITY STRENGTHENING AND TRAINING ACTIVITIES	<b>30</b>
SUPPORTING DATA MANAGEMENT AND SHARING	<b>38</b>
POLICY ENGAGEMENT AND COMMUNICATIONS	<b>39</b>
ADMINISTRATION	<b>42</b>
FINANCIAL ISSUES	<b>50</b>
2013 INDEPTH PUBLICATIONS	<b>57</b>

## Message from the Executive Director

**THE YEAR 2013** was a very successful one for INDEPTH. Perhaps its most notable achievements were the launch on July 1 of the world's first online demographic and health data repository, the INDEPTH Data Repository ([www.indepth-ishare.org](http://www.indepth-ishare.org)), and the accompanying website, INDEPTHStats ([www.indepth-ishare.org/indepthstats](http://www.indepth-ishare.org/indepthstats)).

The INDEPTH Data Repository is an online archive of high-quality datasets from INDEPTH member Health and Demographic Surveillance Systems (HDSS) centres. It is the first data repository that specialises in longitudinal population-based data from low- and middle-income countries. The repository was established with six datasets from Vadu HDSS (India), Nairobi HDSS (Kenya), Magu HDSS (Tanzania), Chililab HDSS (Vietnam), Agincourt HDSS (South Africa) and Africa Centre HDSS (South Africa).

INDEPTHStats is a website that contains summary statistics, images and graphs of key health and demographic indicators generated from the INDEPTH member HDSS centres. It provides researchers, government officials and policymakers with information that can guide their decision-making, including crude birth and death rates, age-specific fertility and death rates, infant, child, and under-five mortality rates, as well as numerous other health and demographic indicators. INDEPTHStats

started with data from 18 HDSS sites. The plan is to update the repository and website with new data and additional datasets every year on July 1.

Another major achievement was the latest addition to the INDEPTH Network, the Birbhum HDSS in West Bengal, India. INDEPTH now has 42 member centres operating 49 HDSSs.

INDEPTH's strategy for 2013-2016 is to focus on the three core activities of the Network. These are: research, capacity strengthening and policy engagement.

Under the research strand – being a research and training network recognised for the data it generates – the Network showed its productivity with more than 500 publications in international journals by INDEPTH member centres from 2012-2013. We also held a successful INDEPTH Scientific Conference (ISC 2013) in Johannesburg, South Africa in October, with about 300 people from all walks of life participating.

During the year under review, we also placed much emphasis on the capacity strengthening strand of our core activities. As well as growing the talent of scientists in member centres by holding training workshops, we have also continued to support students to undertake MSc studies in population-based field epidemiology at the University of Witwatersrand in South Africa. In 2013, we introduced a new master's programme in research-oriented data management, in partnership with the University of Witwatersrand.

With regard to the policy engagement strand, we identified the need for INDEPTH to move up a gear and facilitate the translation of network findings in order to maximise impact on policy and practice. Going forward, therefore, and in line with the strategic



**Prof. Osman Sankoh, Executive Director**

plan for 2013-2016, our major focus will be on tailoring, packaging and directing research outputs, as appropriate, for different audiences and stakeholders so as to bridge the gap between research findings and policy-making. To this end, we have developed plans to strengthen the Policy Engagement and Communications Section of the INDEPTH Secretariat as well as revive the Research to Policy Working Group. We also collated publications from all member centres and synthesised them in various thematic areas including malaria, HIV and AIDS, and maternal health, with the aim of using them to influence policy and ensure an on-going collaboration between scientists and policy makers.

In order to ensure the sustainability of the Network, the Network has engaged the services of a consultant to help in developing a new fundraising strategy. Additionally, the Network also began to formulate a plan for establishing a consultancy service as part of its effort to sustain the Network financially.

It is our hope that the year 2014 brings us similar success and that we are able to fulfil our promise of updating the data repository and INDEPTHStats; and to engage policy makers in order that the thousands of research studies conducted by member centres are able to impact positively on policies and programmes. Above all we look forward to engaging in programmes that will sustain the Network.

I would like to sincerely thank the Board of Trustees, the Scientific Advisory Committee (SAC), funders, partners, collaborators, INDEPTH member centres – their leaders and teams, well-wishers, and communities where centres conduct research, as well as the staff of the Secretariat for their sustained commitment to our work.

I would like to specifically thank our core support funders in 2013: Sida/Research Cooperation Unit, Swiss TPH, Wellcome Trust and William & Flora Hewlett Foundation. Their financial contribution to the core activities of INDEPTH continues to make it possible for us to report on a range of exciting activities.

We have provided a summary of our 2013 results which is built upon a set of performance targets and indicators in line with the 2013-2016 strategic plan and M&E metrics.

I hope you will find time to read the entire report for 2013 and see how far we have come.

Very best wishes,



**Prof. Osman Sankoh**, Executive Director

# 1. INTRODUCTION

## 1.1 Vision

INDEPTH will be an international network of demographic research institutions that provides health and demographic data to enable developing countries to 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.

## 1.2 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.

## 1.3 INDEPTH's Objectives

1. To strengthen the capacity of INDEPTH member centres to conduct longitudinal health and demographic studies in defined populations.
2. To facilitate and support research capability strengthening relevant to INDEPTH activities.
3. To stimulate, co-ordinate and conduct cutting-edge multi-centre health and demographic research.

## 1.4 INDEPTH's Key Strategies

The key strategies INDEPTH Network uses to achieve its objectives include:

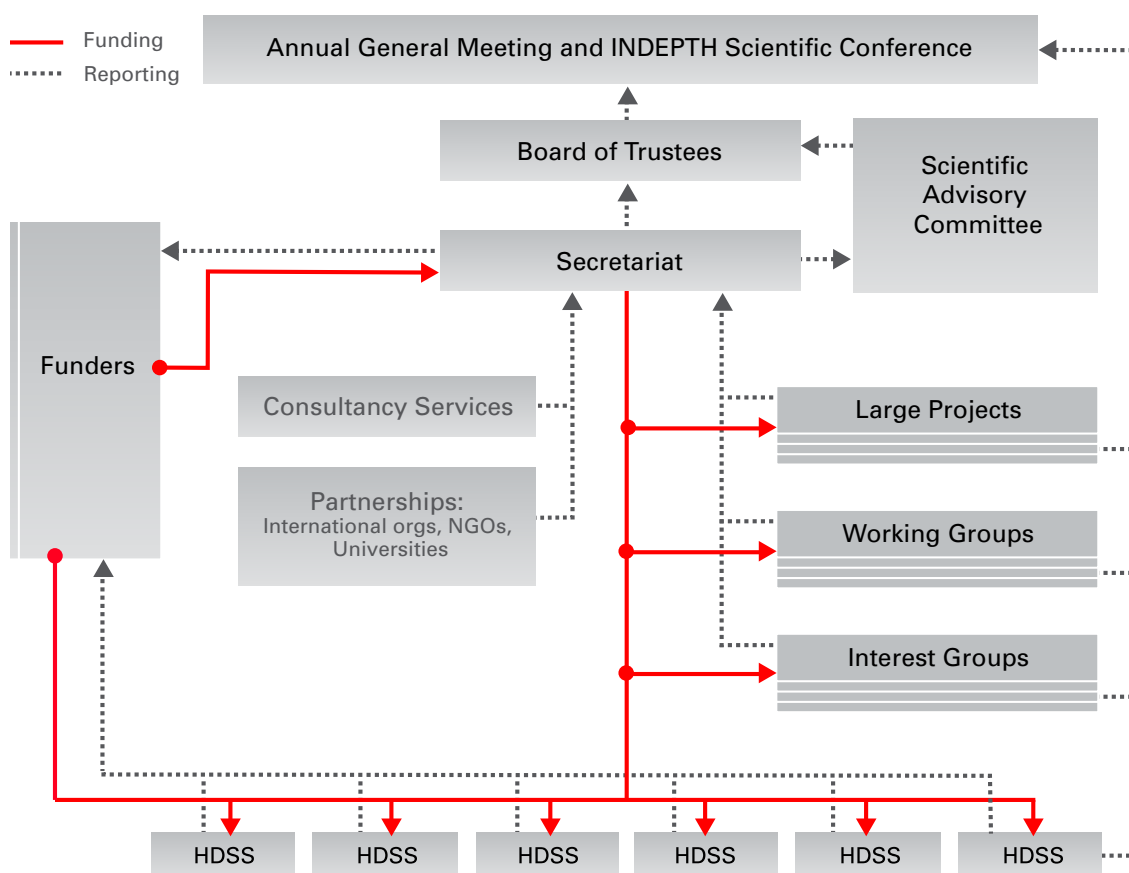
1. Perform research to quantify and understand the complex demographic and health transitions in LMIC settings through longitudinal population-based demographic, epidemiological and cause-of-death data; and discover what works, for whom and at what cost by conducting intervention research and impact evaluations. INDEPTH campaigns and works for fuller exploitation of members' data, but does not impose specific research topics on members. At the same time, regional or global priorities are highlighted and may be supported.
2. Tailor research outputs as appropriate for different audiences and stakeholders to reduce the critical gap between research findings and action. Our methods for enhancing policy dialogue and communicating new knowledge to potential end users include:
  - Encouraging and supporting Working Groups to publish research findings and policy analyses in varied formats, including peer-reviewed articles in international journals, working papers and research reports, policy briefs, fact sheets, media releases and newspaper articles; our emphasis wherever possible is on "open access".



- Organising forums, meetings and briefings with key stakeholders
  - Participating in international conferences and agenda-setting meetings
  - Strengthening and collaborating with national and regional entities focused on population, health and development, and
  - Assessing existing policies and the policymaking environment, and on the basis of evidence, making relevant recommendations
3. Grow the talent of scientists in Member Institutions as well as enhance the capacity of the institutions to conduct world-class research

## 1.5 INDEPTH in Brief

INDEPTH is a global leader in health and population research, providing robust answers to some of the most important questions in development. The lack of a reliable information base to support the identification, prevention and treatment of health problems is a major hurdle to addressing the high burden of disease in low- and middle-income countries. INDEPTH — through its global network of 49 health and demographic surveillance system (HDSS) sites run by 42 research centres in 20 countries across Africa, Asia and the Pacific region — is the only organisation in the world capable of developing that information base. It tracks a total population of over 3.5 million people, providing high quality longitudinal data not only about the lives of people in low- and middle-income countries (LMICs), but also about the impact on those lives of development policies and programmes.



**FIGURE 1: INDEPTH's Organogram: The INDEPTH network is organized to build on the work of Independent Research Centres managing 49 HDSS sites. It is structured to help facilitate cross site studies through a set of Working Groups and Interest Groups.**

## 1.6 Our Performance in 2013

Performance measurement is central to the Network's growth and evolution. Not only are funders increasingly requiring it, but it is vital that INDEPTH monitor its productivity in such domains as publications, graduate students, dataset production and policy translation. Measuring our impact helps to clarify our value proposition to a wider range of stakeholders.

Intermediate performance indicators cut across our three business lines (research, policy engagement and communications, research capacity strengthening) and Network organs in order to clarify what is expected of each Working Group, Member Centre, Secretariat, Scientific Advisory Committee and the Board of Trustees. They allow for a complete view of the Network given our inherent inter-relatedness. Regular tracking towards defined targets helps identify critical issues as they arise so that they can be addressed in good time. Consistently, on an annual basis, we critically review intermediate outputs and aggregate Network productivity in the domains just noted.

The Network has developed a results-based monitoring system with a log frame to report on outputs and outcomes of our Strategic Plan.

### OBJECTIVE 1: To strengthen the capacity of INDEPTH member centres to conduct longitudinal health and demographic studies.

Sub-objective	Intermediate Outcomes by 2016	Long-term Outcomes (2017-2020)	Baseline 2012	Output Indicators 2013	Progress
1. Train 10% more scientists and HDSS staff by 2016 and improve the skills of existing ones	<b>10% growth in number of scientists participating in INDEPTH training each year</b>	10% annual growth in number of scientists participating in INDEPTH training each year	4 MSc students in training 6 training workshops involving 90 participants	6 MSc students in training 4 training workshops involving 30 participants	Approval of the new MSc track in Research Data Management
2. Improve the quality and depth of data collected by member centres	<b>25% of 42 centres on OpenHDS; 25% collecting additional data modules (non-core)</b>	90% of 42 centres on OpenHDS; collecting data 3x/year 50% collecting additional data modules	Not applicable	1 centre on OpenHDS 5 centres collecting non-core HDSS data First training in OpenHDS done	Support from SwissTPH to advance the development of OpenHDS
3. Improve data harmonisation and management across the network	<b>75% of Centres using the INDEPTH Stats (IDMP1)</b>	90% of Centres using INDEPTHStats (IDMP)	None	6 centres on repository 18 on INDEPTHStats	Launch of data repository

4. Increase the number of publications using INDEPTH member data by 10% by 2016	<b>10% growth in number of papers published by centres each year – both multi-site as well as single-site</b>	10% annual growth in number of papers published by centres each year	300 publications in international journals 12 multi-centre publications	494 peer-reviewed publications in international journals 7 multi-centre publications	The Secretariat must focus in 2014 on multi-centre publications
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**OBJECTIVE 2: To stimulate, co-ordinate and conduct cutting-edge multicentre health and demographic research.**

Sub-objective	Intermediate Outcomes by 2016	Long-term Outcomes (2017-2020)	Baseline 2012	Outcome Indicators 2013	Progress
1. Increase the activity level of Working Groups and have 5 new active Working Groups by 2016	<b>5 new active working groups by 2016</b> <b>All Working Groups with SAC-approved strategy</b>	Working groups covering 90% of top 20 demographic issues/burden of disease	9 working groups were active in 2012.	10 active Working Groups	The work is moving as expected. However, the Secretariat encourages Working Groups to write proposals.
2. Increase the number of multicentre proposals by 10% by 2016	<b>Working groups/ Secretariat generates 10% more proposals by 2016</b>	90% of Working groups developing large scale proposals/projects	12 proposals were submitted.	7 proposals developed involving more than three HDSS members 20 institutional collaborators	Slide decrease in the number because of continued proposals.
3. Increase the number of multicentre grants and consultancies by 10% by 2016	<b>Working Groups/ Secretariat wins 10% more grants by 2016 (grants as proxy for quality)</b>	10% annual growth in number of grants/\$ value per year	4 grants made to INDEPTH for multicentre research.	6 grants made to INDEPTH for multicentre work	The Secretariat has a resource centre component, which will contribute to increase the number of grants' submissions.
4. Increase the number of multicentre publications by 10% by 2016	<b>10% growth in number of papers published using multi-centre data by 2016</b>	10% annual increase in number of publications	12 multi-centre publications	7 multi-centre publications	The Secretariat must focus in 2014 on multi-centre publications

**OBJECTIVE 3: To facilitate the translation of INDEPTH findings to maximise impact on policy and practice.**

Sub-objective	Intermediate Outcomes by 2016	Long-term Outcomes	Baseline 2012	Outcome Indicators 2013	Progress
1. Increase the number of Systematic Reviews by 10% by 2016	<b>At least 10% new systematic reviews completed 2016</b>	At least three systematic reviews completed each year	None	2 systematic reviews published	Revive the Research to Policy Working Group to pursue this objective. Recruit a Manager
2. Increase the number of Policy Briefs (Secretariat, centres) by 10% by 2016	<b>10% increase in the number of policy briefs being produced by centres and working groups/ Secretariat</b> <b>Recruit Secretariat Policy Expert</b>	10% annual increase in number of policy briefs	None	2 Secretariat policy briefs on the website	Revive the Research to Policy Working Group to pursue this objective Recruit a manager
3. Increase the number of Stakeholder interactions (national, regional and international) by 10% by 2016	<b>10% increase in the number of meetings held between centres &amp; policy makers or between working groups/ Secretariat and policy makers</b>	10% annual increase in the number of meetings held between centres & policy makers or between working groups/ Secretariat and policy makers	3 international meetings Executive Director made 5 presentations at international conferences	3 international stakeholder meetings Executive Director made presentations in 6 international conferences	Funds will be made available to increase stakeholder participation
4. Increase Policy/Practice influence and the number of recommended changes linked to INDEPTH findings by 10% by 2016	<b>Growth in number of policy recommendations linked to INDEPTH studies – both adopted and just recommended</b>	INDEPTH network and members as “GoTo” partners for policy makers	Focus was on making data freely and widely available for international access	Board agreed that INDEPTH must now pursue vigorously the objective to facilitate the translation of research evidence to influence policy and practice	INDEPTH will state steps to strengthen policy engagement

**FIGURE 2: Logframe of INDEPTH’s Strategic Objectives.**

## 2. SCIENTIFIC RESEARCH AND CO-ORDINATION ACTIVITIES

INDEPTH's main business is to perform research to quantify and understand the complex demographic and health transitions in low- and middle-income settings through longitudinal, population-based demographic, epidemiological and cause-of-death data; and to discover what works, for whom and at what cost by conducting intervention research and impact evaluations.

INDEPTH's scientific research and coordination activities are conducted through Working Groups and Interest Groups. In 2013, these groups worked in 12 areas, covering topics ranging from newborn health to environmental pollution to migration. In this section we discuss the groups' key activities in 2013 and outline their purpose and plans for the future.

### 2.1 Working Groups

Working Groups are the primary engines through which INDEPTH conducts its scientific activities. Each group focuses on a specific research topic or project that has been identified as of priority interest and on which at least three sites wish to work collaboratively. Members are drawn from INDEPTH member sites, the secretariat and the Scientific Advisory Committee. Each has a leader or principal investigator appointed by the Board, usually on the recommendation of the Executive Director.

#### 2.1.1 Adult Health and Aging

Over the last decades, improvements in fighting infectious diseases have led to increases in the prevalence and importance of non-communicable diseases in sub-Saharan Africa and Asia. Adults now live longer, but many, especially as they grow old, suffer from chronic diseases that need to be treated.

The Adult Health and Aging working group aims to examine the effects of this health transition on adults by studying three cohorts of older adults in African settings that have reached different stages of the transition. Its examinations will cover physical and cognitive functioning, cardiometabolic disease, HIV, and productivity. The first survey will begin at Agincourt HDSS in South Africa, and the study is planned over the next three years to extend to Ifakara HDSS in Tanzania and Navrongo HDSS in Ghana. See *Figure 3*. The working group secured funding for the project from National Institute on Aging and National Institutes of Health in 2013.

#### 2.1.2 Migration, Urbanisation and Health

This group seeks to examine the relationship between migration, health and poverty at nine INDEPTH member HDSSs with the aim of contributing to an empirical understanding of the dynamics between migration and health in Africa.

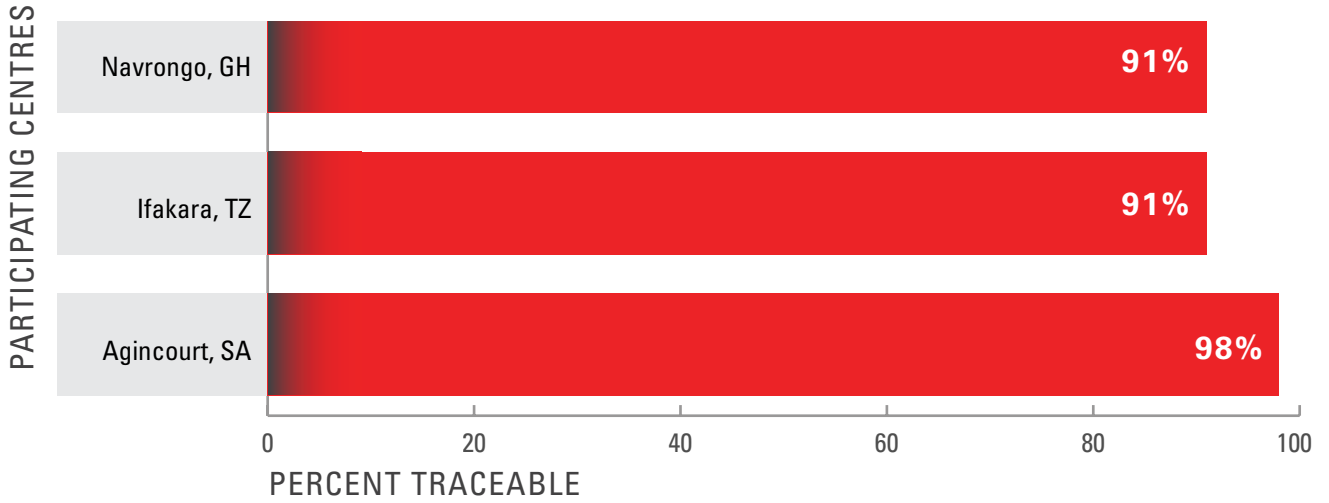


FIGURE 3: Follow up of older adult migrants, 2012.

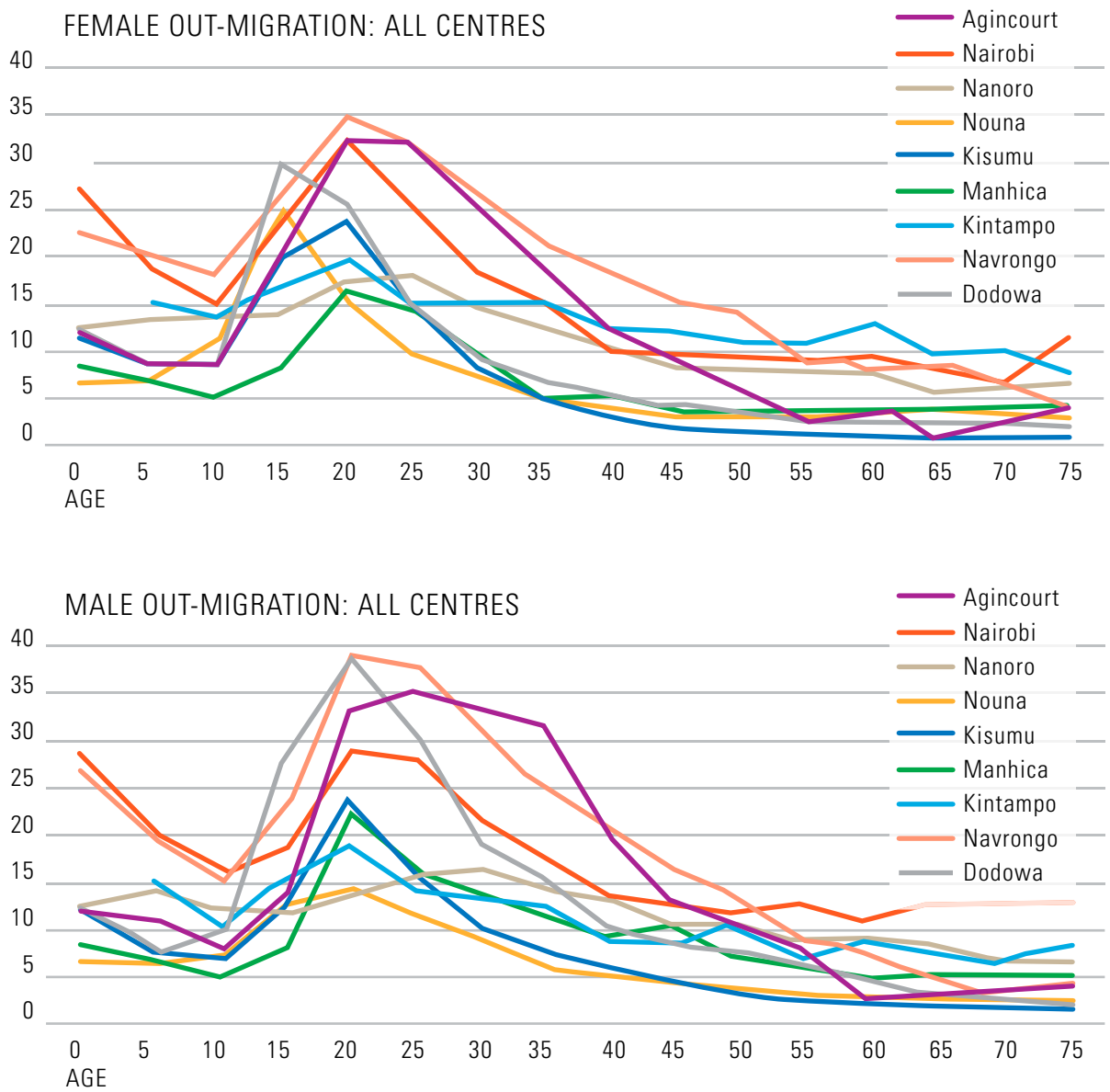


FIGURE 4: Gender specific out-migration in selected INDEPTH member centres.

The Multi-Centre Analysis of Dynamics in Migration and Health group, which is funded by the INDEPTH secretariat through a Sida grant to INDEPTH, held a data analysis meeting on the determinants of migration in Nairobi, Kenya in February 2013. This resulted in the standardisation of the core micro-data produced by each centre. The group's first publication, *"Health and Demographic Surveillance Systems: Contributing to an understanding of the dynamics in migration and health"*, appeared in *Global Health Action Journal*, 2013. See *Figure 4* for results.

### 2.1.3 Environment and Health

Global environmental change has significant implications for human health, particularly in low-income settings. National and local indicators are needed to monitor the impacts of environmental changes on population health. HDSS sites provide the best longitudinal data for monitoring health in low and middle income countries to understand the associations between environmental changes and health outcomes. The Environment and Health working group seeks to highlight the relationship between climate change mortality and migration of rural populations.

In 2013, INDEPTH secured a grant from UNESCO Ghana to implement a project on climate change mitigation and adaptation in the Sahel and West Africa. The inter-sectoral project, on which INDEPTH will collaborate with UNESCO Ghana and Accra University College of Communication (AUCC), is designed to link existing climate change networks to strengthen the capacity of local communities to address the challenges of climate change at the sub-regional and national level, with a focus on mitigation and adaptation. Burkina Faso (Sahel) and Ghana (West Africa) are the core sites of the project activities.

A workshop held in Accra, Ghana in September 2013 brought together environmental experts including hydrologists, water resources experts, local stakeholders and policy-makers with environmental media practitioners to ensure that scientific knowledge can be transferred to the national and local levels. Subsequently, core funds were pledged by INDEPTH for a continuation programme that will be coordinated by AUCC. From this was conceived "The Journalists for Climate Change Awareness Group."



**Participants at the Climate Change Mitigation and Adaption workshop, September 2013.**

### 2.1.4 Cause of Death Determination

Knowing the cause of death helps policymakers to base interventions on a better understanding of critical diseases. Documenting and understanding cause-specific mortality patterns is at the core of INDEPTH's mission. This working group seeks to standardise methodology across the network as well as ensure the full aggregation and analysis of data.

Eighteen INDEPTH member centres from Africa and Asia participated at the first Cause of Death Determination workshop, held in Belgium in December 2012. Representatives of twelve African centres took part in a second workshop, held in Accra, Ghana in March 2013. This had two goals. The first was to strengthen the standardisation of verbal autopsy data analysis across sites to facilitate pooled data analysis. The second



**Participants at the Cause of Death Workshop in Accra March 2013.**

was to analyse and interpret findings and use them to draft papers on cause of death for inclusion in a supplement of the *Global health Action journal*. A similar workshop, attended by representatives of nine HDSS centres in Asia, was held in Bangkok, Thailand in October 2013. *Preliminary results presented in Figure 5.*

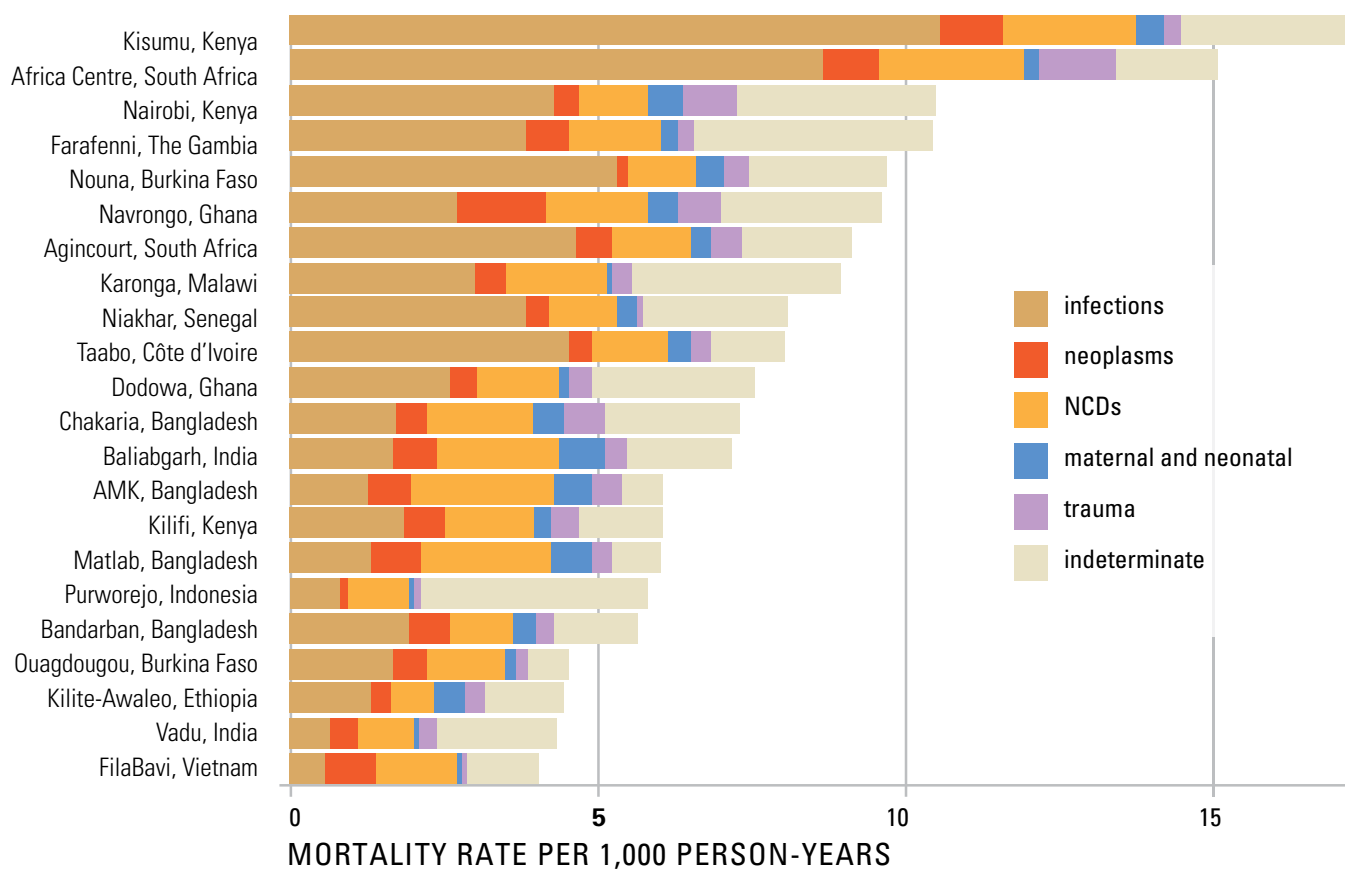
The working group has so far conducted a standardised analysis of 114,465 deaths at 22 INDEPTH HDSS sites, of which 102,258 had verbal autopsies completed, representing over 12,424,657 person-years of observation.

### **2.1.5 Maternal and Newborn Health**

In 2012, 6.6 million children died before their fifth birthday. As under-five mortality rates fall in richer developing regions, the majority of child deaths are occurring in low and middle incomes countries, most of which are in sub-Saharan Africa and Southern Asia. A growing proportion of child deaths (42%) occur at or around the time of birth. Likewise, in 2010 an estimated 287,000 mothers died from pregnancy-related causes. Millions more suffer from complications resulting in illness and injury.

As all INDEPTH HDSS member centres currently track pregnancies, newborn births and deaths, the network provides an excellent platform for tracking newborn health interventions as well as morbidity and mortality trends on a longitudinal basis. The Maternal and Newborn Health working group has engaged 22 INDEPTH member sites and secured financial support from the South Africa Medical Research Council and Save the Children, as well as support from INDEPTH using the Sida core funding.





**FIGURE 5: Major causes of death by site in INDEPTH sites – Draft results.**

The group held a four-day data analysis and writing workshop in Ho, Ghana in July 2013, where participants agreed on standard definitions; prepared individual level datasets for analysis; conducted comparative analysis of maternal and newborn mortality based on existing data; drafted centre-specific and multi-centre papers based on identified research questions that would be supported by the existing data; and standardized tools for tracking pregnancies and their outcome. The meeting also developed a newborn research agenda for the INDEPTH Network and drafted a proposal for funding.

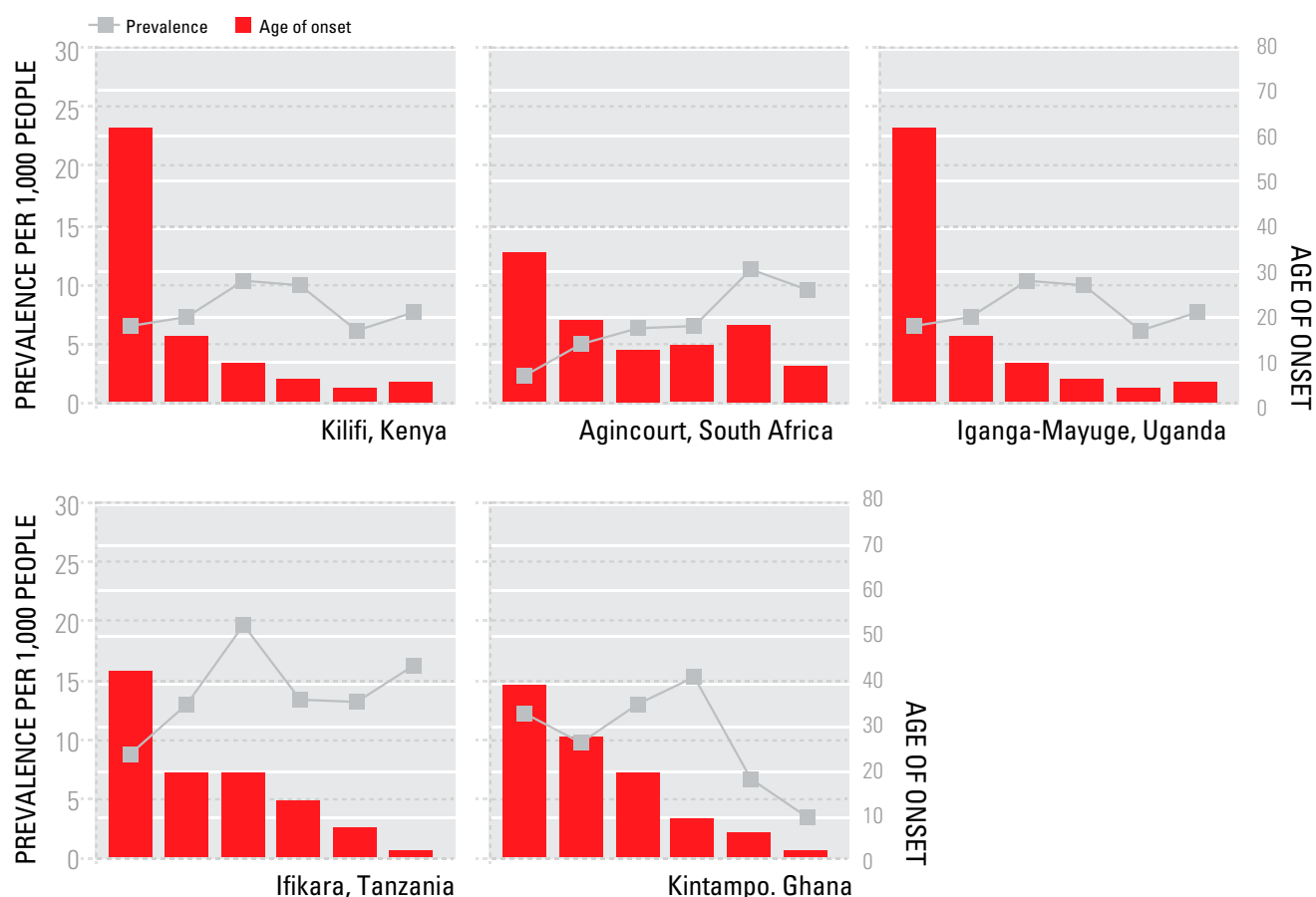
At a meeting in Johannesburg, South Africa in the same month the group drafted papers on neonatal mortality based on cross-site pooled datasets. Two draft manuscripts for publication, covering stillbirths and neonatal deaths across HDSS sites, are nearing completion. The team is currently focused on capacity strengthening and the development of a tool kit for improving the capture of maternal and newborn related events at HDSS sites.

### 2.1.6 Mental Health and Neurology

Over five million people in sub-Saharan Africa are estimated to suffer from epilepsy, with particular peaks for young adults (aged 20-40). While researchers understand the high prevalence of the disease, actual estimates of the burden of the disease, risk factors and outcomes remain elusive.

The Mental Health and Neurology group, made up of Kilifi, Agincourt, Iganga-Mayuge, Kintampo and Ifakara HDSS centres, is seeking to study the prevalence, risk factors and outcomes of epilepsy. In 2013 the team completed its fieldwork in all the HDSS

centres, analyzed the data and prepared the data for sharing. Documentation of data was completed and forms part of the first working group-related datasets included in the INDEPTH Data Repository (see below).



**FIGURE 6: Age-specific prevalence and age at onset of active convulsive epilepsy in the five centres They also have a publication in *Lancet Neurology*: See Ngugi AK et al. (2013) "Prevalence of active convulsive epilepsy in sub-Saharan Africa and associated risk factors: cross-sectional and case-control studies."**

## 2.2 Interest Groups

The Working Groups are supported by and often formed by Interest Groups, assemblies of scientists from HDSSs who come together, usually virtually, to discuss common research interests. Interest Groups can upgrade to Working Groups or continue as discussion groups to pool and develop knowledge on particular research themes and issues.

Below we outline the progress of the six interest groups that were active in 2013.

### 2.2.1 Social Science Research in INDEPTH

This group was launched in 2013 and aims to help scientists in HDSS centres with qualitative analysis. The first qualitative data analysis workshop was held in Pune in India in September 2013. It trained and guided participants in the preparation of social science-related papers for publication, based on health and demographic surveillance system data from INDEPTH member centres. Participants came from HDSS centres in five countries in Africa and three in Asia. The drafting of a social science paper for potential publication was a further outcome of the workshop.



[ FROM LEFT ] **Participants at the Social Science Research Workshop in Pune India, 16-20 Sept 2013; participants at the Household Dynamics Workshop in Accra, Nov 2013.**

## 2.2.2 Household Dynamics

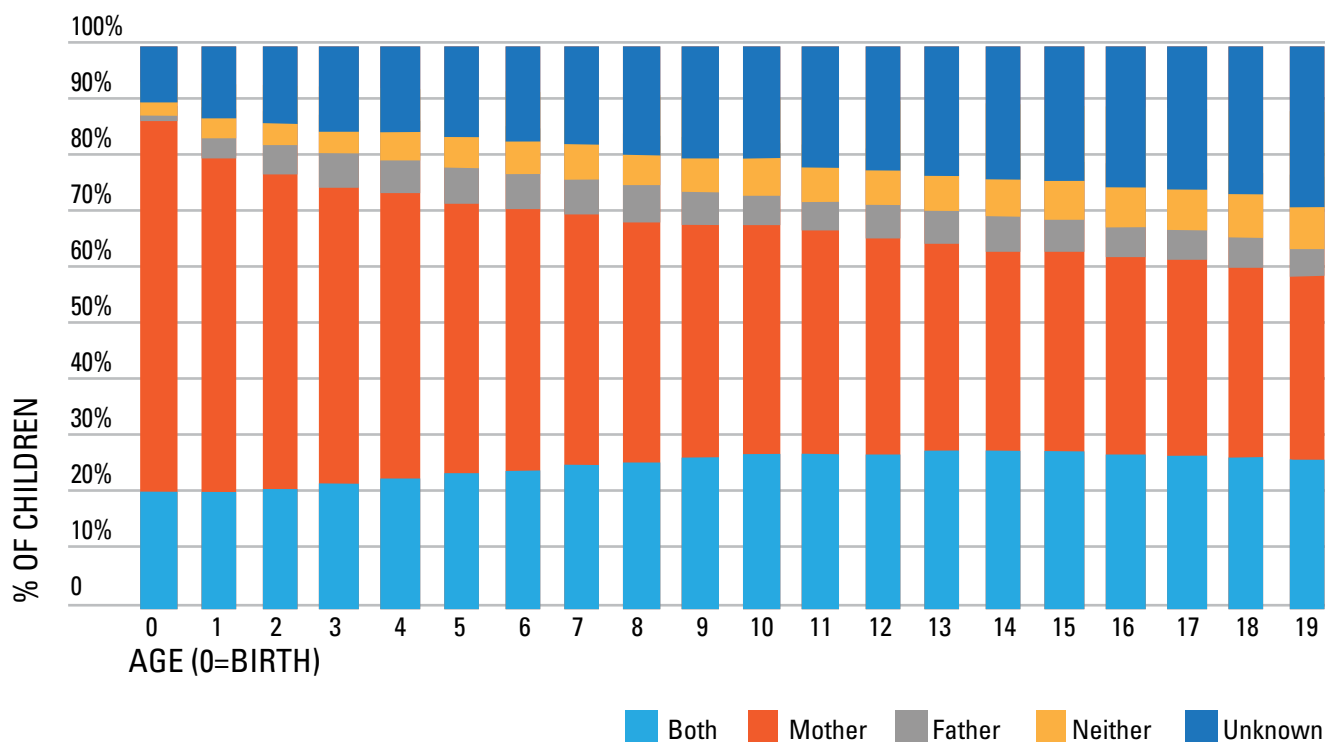
The household is the basic building block of society and the unit of production as well as of reproduction. It is the primary context of socialization and decision-making regarding the nutrition, health care and schooling of children. The household is also a key context for the regulation of new unions, fertility, and migration. Almost all social institutions hinge on the household.

Household structure is not static. Children may move from one type of living arrangement to another: living with two parents, living in a step family household, living with a single parent, living with siblings without adults, living apart from biological parents. Despite increasing changes being observed in connection with the structure and composition of households in developing countries, little is known about the relationship between changes in children's living arrangements and their wellbeing indicators.

Against this background, the Household Dynamics interest group organized a data analysis workshop on the effect of changes in children's living arrangements on their health and education outcomes as well as on sexual intercourse debut in low and middle income countries. The workshop, held in Accra, Ghana in November, aimed to compare definitions and measurement of key concepts; to standardise tools to enable comparison between INDEPTH member sites; to conduct comparative statistical analysis of the relationship between changes in children's living arrangements and their wellbeing outcomes; to draft papers on this relationship; and to prepare a special issue on the topic for the *African Population Studies* journal.

## 2.2.3 Indoor Air Pollution

Since 1993, the World Bank has listed indoor air pollution (which occurs because of biomass combustion) as one of the main contributors to the worldwide burden of death and disability. The INDEPTH Interest Group on indoor air pollution seeks to assess its impact on health outcomes and to identify and determine how to implement potential interventions. The team aims to monitor population impact by leveraging longitudinal HDSS data and combining it with pregnancy outcome data and cause-specific mortality data. The group's proposed INDEPTH household air quality improvement intervention study will seek to understand the decrease in the risk to respiratory health among children and their mothers in HDSS settings in Africa and Asia as a result of the introduction of improved cooking stoves and improved ventilation in homes. The group is currently seeking funding for the project.



**FIGURE 7: Living arrangement at birth and subsequent birthdays.**

## 2.2.4 Antibiotics Resistance

The World Health Organisation has described antibiotic resistance as a ‘serious, worldwide threat to public health,’ that is ‘happening right now in every region of the world.’ It has warned, too, that we risk a ‘post-antibiotic future’ where resistance to antibiotics renders many of them useless. The WHO has acknowledged the need for INDEPTH to play a role in antibiotic resistance research. This interest group comprises nine HDSS sites in Africa and Asia. In 2013 it submitted a pre-proposal to Wellcome Trust for a study which aims to examine the flow of antibiotic resistant genes between the community and hospital in low and middle income countries.

## 2.2.5 Chronic Diseases and Cancer in Africa

The large burden of non-communicable diseases (NCDs) is increasingly becoming apparent in low-income countries where childhood illnesses and infectious diseases are being successfully tackled. The United Nations High Level Meeting on NCDs, including cancer, recognised the need to strengthen health systems by building on existing services such as those for maternal health. As a result of increasing calls for non-vertical health system approaches, women’s cancers will begin to be addressed in a life-course approach alongside maternal health.

This interest group links INDEPTH demographic surveillance sites in Tanzania, Ethiopia and Ghana with the African Cancer Registry Network and the Union for International Cancer Control. The network aims to generate better knowledge on female reproductive cancer epidemiology, biology and socio-cultural attitudes. In particular it aims to help strengthen monitoring systems to improve and extend epidemiological data on female reproductive organ cancers; to help develop a cancer prevention and care approach adapted to African primary care systems; to conduct clinical research on the

biology of female cancers; and to develop networks for stronger collaboration between research institutions, civil society networks and NGOs.

## 2.2.6 Tuberculosis

The Millenium Development Goals to halt tuberculosis incidence and halve prevalence and mortality by 2015 will not be reached for Africa, and the new goal set by WHO's STOP TB partnership is to eliminate TB by 2050, defined as less than one case per 1 million. HDSS sites are well placed to demonstrate advances both in assessing the true magnitude of the TB burden and in implementation of effective low-cost interventions.

The Population-based Research on Tuberculosis Interest Group comprises four African HDSS centres along with Vadu HDSS in India. The group is designing and testing a low cost TB diagnostic tool as well as identifying ways to target diagnosis and treatment at those most likely to have the disease. It also seeks to demonstrate how the simple clinical score it has developed can be implemented in low resource settings, pilot its use across sites and encourage policy makers to support its rollout. In 2013 the group presented papers and held a workshop at the INDEPTH Scientific Conference.

The large burden of non-communicable diseases (NCDs) is increasingly becoming apparent in low-income countries where childhood illnesses and infectious diseases are being successfully tackled.

## 2.3 Big Projects

INDEPTH Network large projects are research platforms that bring together a number of HDSS sites to answer specific questions. The research principal investigators coordinate all big projects in collaboration with the INDEPTH secretariat.

### 2.3.1 INESS

The INDEPTH Effectiveness and Safety Studies of Anti-malarial Drugs in Africa (INESS) is an exciting new platform that aims to enable African researchers to carry out large Phase IV trials. This will result in systematic, evidence-based reviews of the comparative effectiveness and safety of malaria drugs in many widely used drug classes, and the application of the findings to inform public policy and related activities in local settings.

A planning workshop was held at Ho, Ghana in March 2013 in preparation for the launch of the Eurartesim study in April 2013. In this study, INDEPTH is collecting safety data on the use of the artemisinin-based combination therapy Eurartesim in real-life conditions in the HDSS sites of Nouna in Burkina Faso and Navrongo in Ghana. Five other sites will take part in the project as it develops. An INESS paper was published in the Malaria Journal, titled 'Access to artemisinin-based anti-malarial treatment and its related factors in rural Tanzania'.

### 2.3.2 The INDEPTH Health Transition Into Adulthood Study (IHTAS) Project

Adolescents (10-19 year-olds) make up one sixth of the world's population. Nearly 90% of them live in low and middle income countries (LMICs). Adolescent health is not only important because of mortality and morbidity during the second decade of life. Its effects shape the future health of adults.

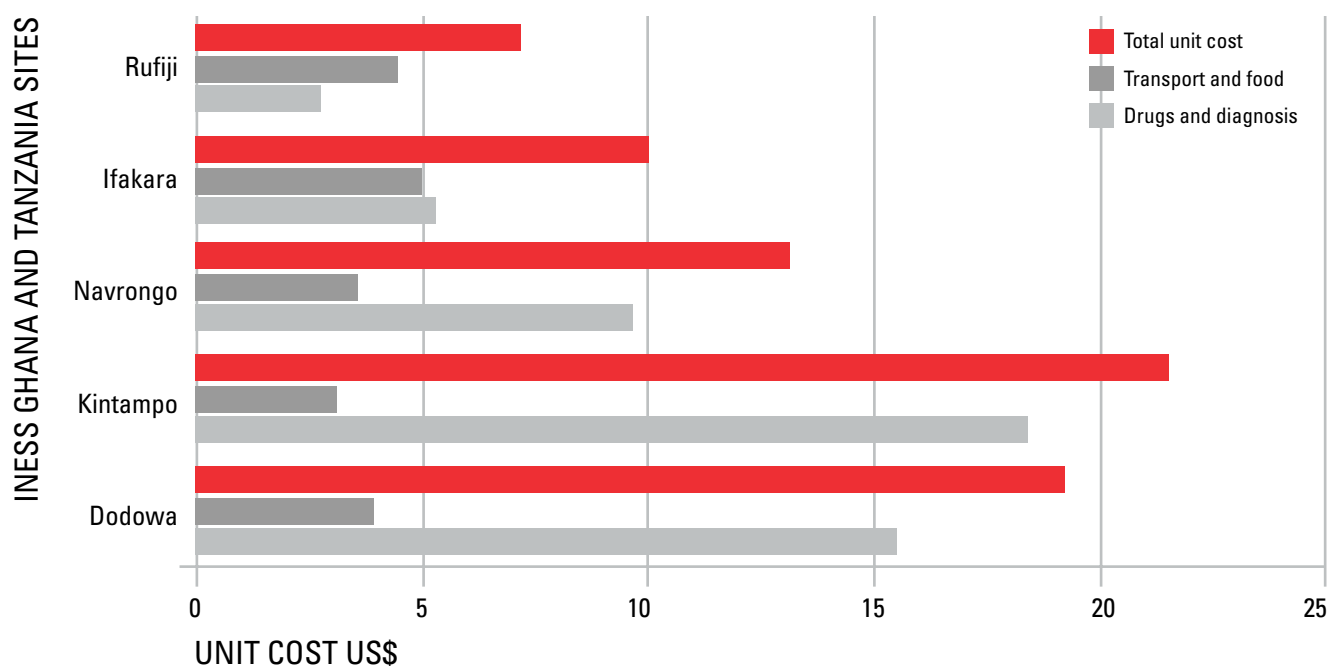


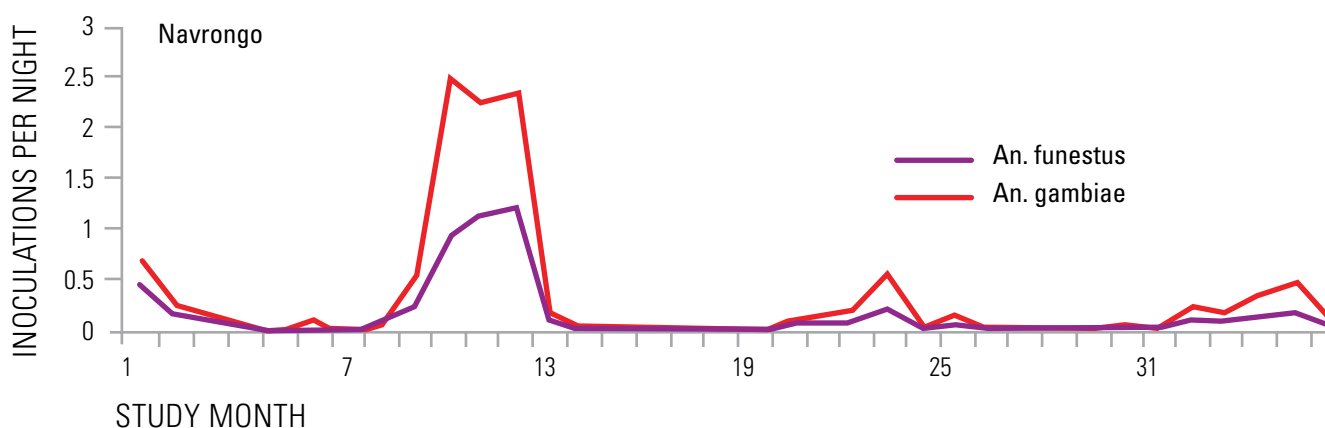
FIGURE 8: Average Costs of treating Fever episode in Tanzania & Ghana.

In late 2013, INDEPTH, in collaboration with the London School of Hygiene and Tropical Medicine, submitted a proposal to potential funders for a major five-year research project on adolescent health, with a focus on adolescent sexual and reproductive health, known as the INDEPTH Healthy Transitions to Adulthood Study (IHTAS). This will involve two linked but stand-alone cluster-randomised plausibility trials (one in each of the two HDSS centres involved) examining the effect of the introduction and promotion of a package of adolescent health services on utilization of health services by adolescents. The interventions that will be evaluated within the trial will include making the package of adolescent health services available within local health facilities, training and supporting health workers to provide adolescent-friendly health services, promotion of the adolescent health services within the population, provision of performance-related incentives to health facilities, and (in one trial arm) provision of individual cash incentives for utilization of the preventive adolescent health services to adolescents.

The two participating HDSS centres are currently implementing phase 1 of the project. This phase reviews relevant policies and program documents on adolescent health services and explores and analyses HDSS data relating to adolescents and young adults. Phase two will be the analysis of existing and additional data collected by the two centres. Based on the findings from phases one and two, a cohort of adolescents will be recruited and followed over time.

### 2.3.3 Malaria Attributable Mortality

The Malaria Attributable Mortality project began in 2013. It aims to use existing verbal autopsy data from HDSS sites to examine differences in malaria mortality between sites, with a view to highlighting potential reasons for variation and recommending policy measures for improving health systems and access to preventive measures such as bed nets and light traps. In a presentation at the INDEPTH Scientific Conference in 2013 the group showed that there was strong seasonal and inter-annual variation of mosquito densities in the nine sites studied so far. All INDEPTH member centres have been sent templates to elicit their own data on malaria mortality.



**FIGURE 9: Mosquito nets diversity in Navrongo, Ghana**

### 2.3.4 AWI-Gen

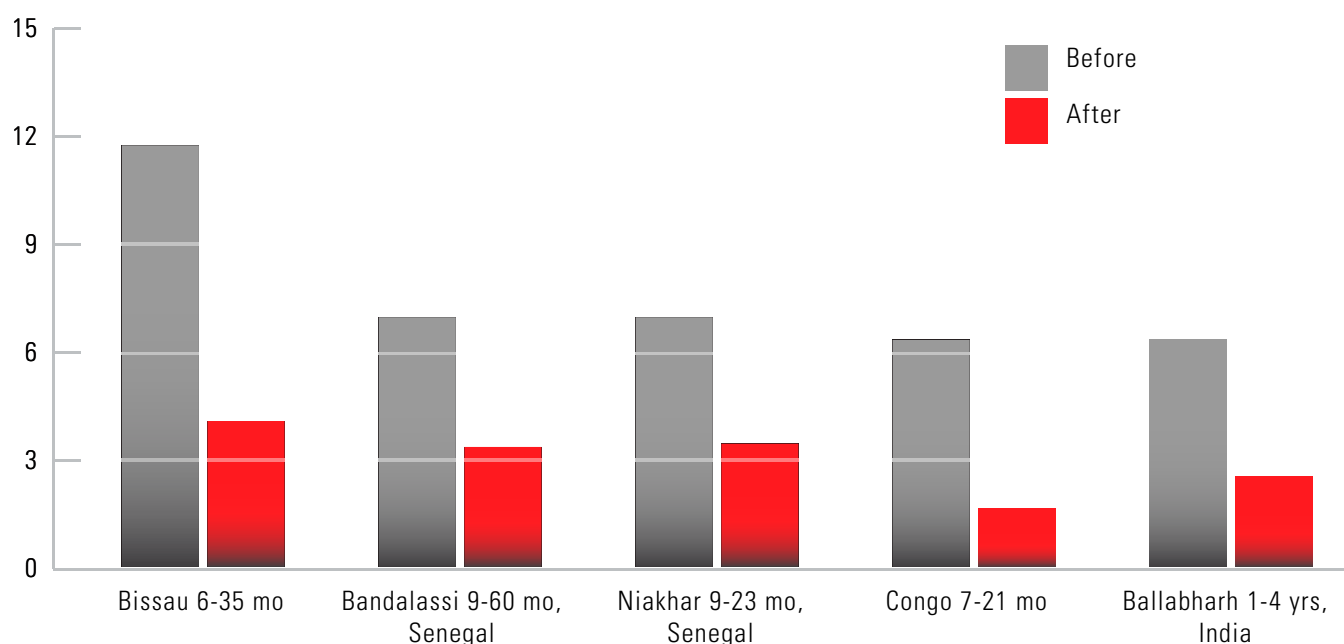
The objective is to develop capacity that enables the use of genomics in addressing questions of biomedical importance.

The long-term vision of this collaborative centre is to build capacity in Africa that leads to an understanding of and response to the interplay between genetics and epigenetic and environmental risk factors for obesity and associated cardiometabolic disease in Sub-Saharan Africa. The objective is to develop capacity that enables the use of genomics in addressing questions of biomedical importance. The collaborative centre was consolidated under the auspices of the University of Witwatersrand (Wits) and the INDEPTH Network. It will capitalize on the strengths of existing longitudinal cohorts including the urban Soweto Birth to Twenty Cohort) and rural Agincourt research platforms in South Africa, along with well-established INDEPTH HDSS centres in Kenya, Ghana, Tanzania, Burkina Faso and South Africa.

Genetic, genomic and at a later stage epigenetic studies will be conducted on biological specimens already collected and additional prospective sampling, with harmonized phenotyping across sites. The project aims to collect 2000 DNA samples following informed consent from each of six sites, two each from western (Ghana and Burkina Faso), eastern (Kenya and Tanzania) and southern Africa (South Africa), contrasting urban and rural communities' risk of obesity and related metabolic disorders.

### 2.3.5 Vaccination & Child Survival (Optimunise) Projects

In 2008-2009 the INDEPTH Network Working Group on Vaccination and Child Survival secured funding to conduct multi-site studies for a project entitled 'Optimizing the impact and cost-effectiveness of child health intervention programmes of vaccines and micronutrients in low-income



**FIGURE 10: Measles Vaccine introduced mid-1970s based on antibody studies Before-After measles vaccination: Annual mortality rate in (INDEPTH) community studies.**

Source: Peter Aaby (2014). INDEPTH WG Child survival – the impact of interventions in childhood. Presentation at the INDEPTH Funders meeting, Stockholm 26 April 2014.



countries', or 'Optimunise' for short. This involved three INDEPTH HDSS centres in Nouna (Burkina Faso), Navrongo (Ghana) and Bandim (Guinea Bissau). The Group held its third consortium meeting in January 2013 in Bandim, Guinea Bissau with sixteen participants attending from the three participating centres. At a further meeting in Accra in June, the group drafted a paper for publication, entitled 'The non-specific effects of vaccines and other childhood interventions: The contribution of INDEPTH Health and Demographic Surveillance Systems.' The group also held a side meeting at the INDEPTH Scientific Conference in Johannesburg.

The Optimunise research has so far shown that an early measles vaccine protects neonates against hospitalizations, especially for respiratory infections. It has also shown that a single dose of BCG vaccine has a significant protective effect on neonates.

### 2.3.6 EVIDENCE

EVIDENCE is a five-year cooperative agreement awarded to Population Council in partnership with INDEPTH Network, International Planned Parenthood Federation, Management Sciences for Health, PATH, Population Reference Bureau, and University Resource Network. The project is investigating which strategies work best in improving, expanding, and sustaining family planning services. It is also evaluating how to implement and scale up those strategies. Critical to the Evidence Project is translating this knowledge and working with stakeholders to apply the evidence and to build capacity in using implementation science.

The Optimunise research has so far shown that an early measles vaccine protects neonates against hospitalizations, especially for respiratory infections.

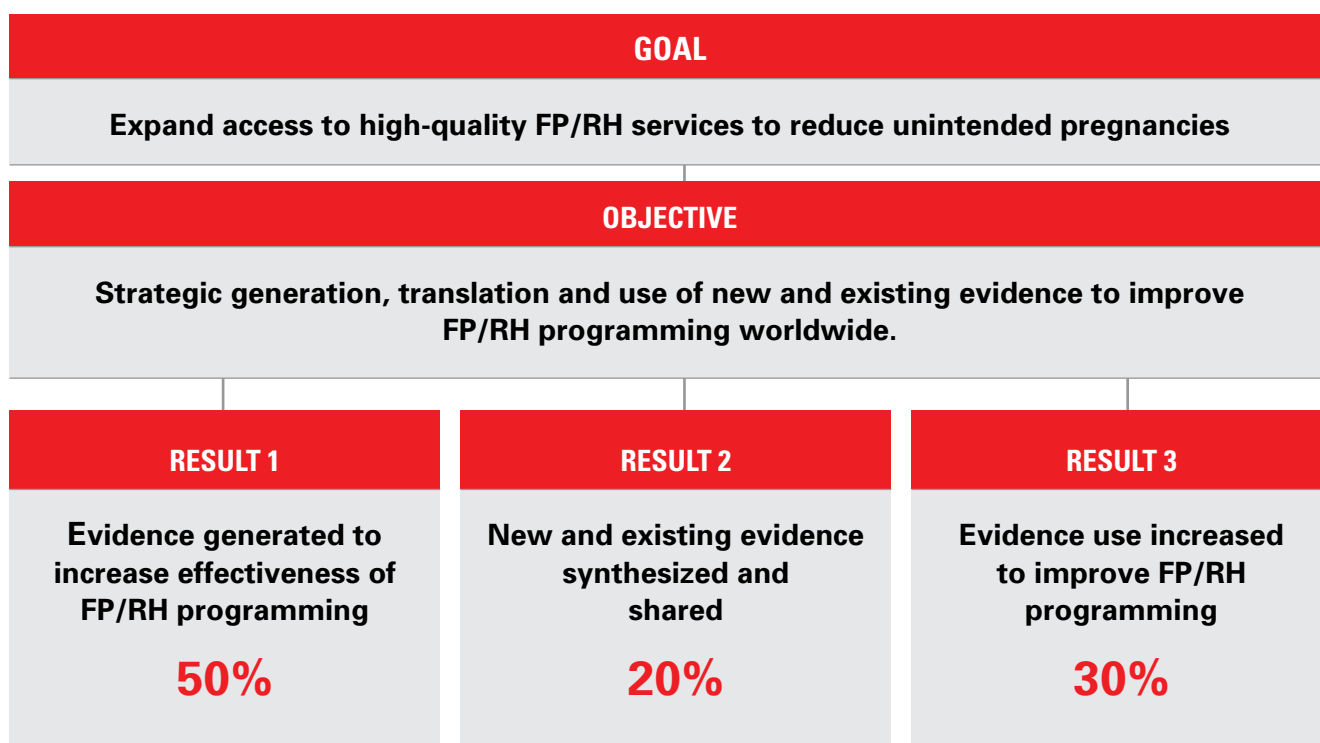


FIGURE 11: The EVIDENCE Project Results Framework.



Participants at IDAMS meeting in Accra, Feb 2013.

The meeting assessed the available evidence on the presence of dengue in Africa, identified knowledge gaps, and discussed the need for future research and eventually control strategies.

### 2.3.7 IDAMS Consortium

Dengue fever is the most rapidly spreading mosquito-borne disease worldwide and has been identified as a global public health concern, especially in tropical and sub-tropical regions of the world. The World Health Organization estimates that 50-100 million dengue infections occur each year and that almost half of the world's populations live in countries where dengue is endemic. In view of the magnitude of the problem, the International Research Consortium on Dengue Risk Assessment, Management Surveillance (IDAMS), of which INDEPTH is a member, funded by the European Union 7th Framework, collaborated with the INDEPTH Secretariat to organise a meeting of experts in Accra in February 2013.

The meeting assessed the available evidence on the presence of dengue in Africa, identified knowledge gaps, and discussed the need for future research and eventually control strategies. The meeting drew research scientists from Oxford University, Liverpool School of Tropical Medicine, Pasteur Institute, Kenya Medical Research Institute, CDC Kenya, Bonn University Medical Centre, and from INDEPTH member Health and Demographic Surveillance Systems centres in Ghana, Ethiopia, Guinea Bissau, Tanzania, Mozambique and Burkina Faso. It is expected that research results and discussions from this collaborative venture of the IDAMS consortium will result in a publication.



## 2.4 INDEPTH Scientific Conference

The 12th INDEPTH Scientific Conference (ISC 2013) was held at the School of Public Health, University of the Witwatersrand in Johannesburg, South Africa from October 28-31, 2013 on the theme: "Fitting together the health data puzzle: The contribution of INDEPTH Health and Demographic Surveillance Sites (HDSSs) to strengthening National Health and Information Systems (NHIS)". Co-hosted by the Wits School of Public Health and Statistics South Africa (Stats SA) in collaboration with the three INDEPTH member HDSSs in South Africa (Africa Centre, Agincourt and Dikgale), the conference was attended by scientists from around the globe and offered high quality sessions and networking opportunities.

The ISC 2013 conference welcomed well over 250 participants including 164 self-funded scientists from different callings, researchers, funders, academicians and numerous partners. There were also 14 young scientists funded by INDEPTH. The majority of the member centres of the Network participated. There were also delegates and representatives from various sister organisations like the Kenyan National Bureau of Statistics and the UN Economic Commission for Africa based in Addis Ababa, Ethiopia.

In his opening keynote address, the Vice Chancellor of the Wits University, Prof. Adam Habib called for an equitable research partnership between the Western countries and low- and middle-income countries. He said donors should not dictate to their recipients because they were providing funds but rather build a fair partnership which was mutually beneficial. Prof. Habib said freedom gives one the right to make decisions and in order to make the right decisions one must have adequate information. 'You can't truly make right decisions without adequate information,' he said. He commended the INDEPTH network for the health and demographic information it gathers, and for building capacity and representing transnational partnerships which were crucial to address global challenges. Prof. Habib further commended INDEPTH for bringing leaders from the global South together to maximise their capacities in order to compete on a global scale.



[ CLOCKWISE FROM TOP ] **ISC 2013 participants in Johannesburg, South Africa; poster; opening speakers (left to right): Laetitia Rispel, Marcel Tanner, Adam Habib, Osman Sankoh, Sharon Fonn, Kathy Kahn and Pali Lehohla; Prof. Adam Habib, Vice Chancellor Wits University; Mr. Pali Lehohla, Statistician General, Republic of South Africa.**



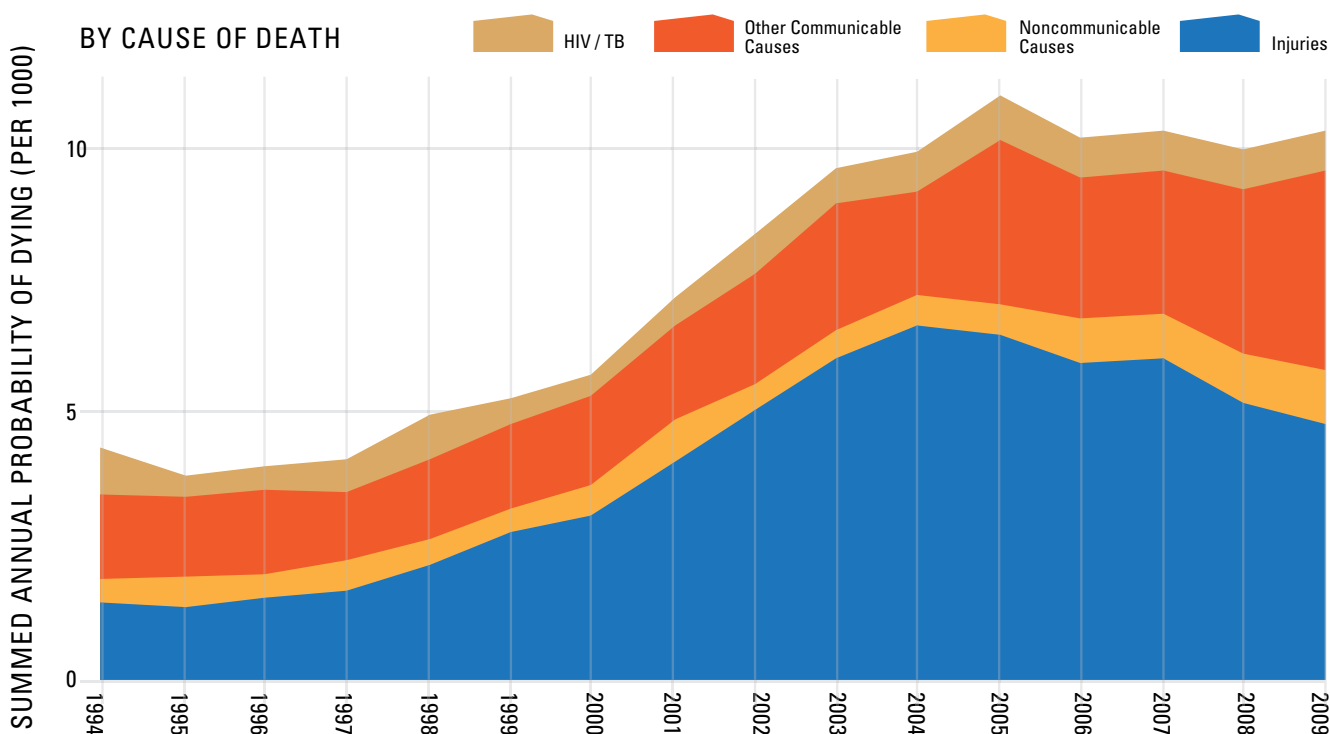
[ LEFT TO RIGHT ] **Prof. Osman Sankoh**; **Prof. Marcel Tanner, Board Chair and Director Swiss TPH**; **Prof. Laetitia Rispel, Head of Wits School of Public Health**; **Prof. Kathy Kahn of Agincourt HDSS and MRC/Wits Rural Public Health Unit**; **Prof. Sharon Fonn, Wits University.**

The Statistician General of Statistics South Africa (Stats SA), Mr. Pali Lehohla, stressed in his remarks that census data and civil registration and vital statistics (CRVS) are priority areas for the African Union (AU). He said that “INDEPTH’s longitudinal data are the pathways through which civil registration can be used to understand what the challenges are.”

Prof. Osman Sankoh, the Executive Director of the INDEPTH Network, said that INDEPTH was developing the requisite information base, providing high quality longitudinal data about the lives of people and how development policies and programmes impact on those lives.

The Board Chair of INDEPTH, Prof. Marcel Tanner, urged the Network to stay focused and committed to its core business; to improve quality of the information and data generated and be innovative in coming up with methodologies that are more effective in collecting data.

Prof. Laetitia Rispel, Head of the School of Public Health at the University of the Witwatersrand welcomed participants to Johannesburg. She congratulated INDEPTH for its pioneering work in health and population research, providing robust answers to important questions in development.



**FIGURE 12: Findings from member centres underscored Mortality transition over 15 years, rural SA 1994 – 2009.**  
Source: Tollman et al, *Lancet* 2008; Mayosi et al, *Lancet* 2009.

Another highlight of the official opening session was a presentation by Prof. Kathleen Kahn of Agincourt HDSS, South Africa that showcased the work of the three INDEPTH member centres in South Africa namely Africa Centre, Agincourt and Dikgale. The presentation highlighted the combined contributions of these centres to research in academia, capacity research capacity building as well as policy responses at the district/provincial levels, national and even global levels.

The ISC 2013 was formally declared open by the final speaker, Prof. Sharon Fonn (then Acting Dean of Faculty of Health Sciences). She emphasized that the School would continue to collaborate with INDEPTH in training the next genre of researchers.

## 2.4.1 Scientific sessions and presentations

Scientific presentations were delivered in plenary and parallel sessions by scientists from INDEPTH member centres and from partners and collaborators. There were a total of 32 sessions on a wide range of contemporary health and demographic surveillance issues, all designed to present research findings and foster new ideas and collaborations. During the four-day conference over 120 scientific presentations were made. The presentations and sessions covered broad contemporary topics that included cause-specific mortality, linkages between health information systems and health research systems, vital events registration, neonatal health and early childhood survival, burden of diseases, urban health, adult health, understanding health and care seeking, informing policy and programmes, advances and opportunities in data capture, epidemiological and demographic transitions, and morbidity surveillance. The plenary and parallel sessions were complemented by discussion panels, working and interest group meetings, poster sessions, and pre-conference and post conference workshops.

## 2.4.2 Scientific awards

Instituted in 2002 by the Board of Trustees of the INDEPTH Network, at every ISC the INDEPTH Prize for Excellent Research in Population and Health based on Health and Demographic Surveillance Systems are presented. The objective of the award is to stimulate INDEPTH researchers to undertake innovative work leading to extraordinary results that have the potential to impact on policy and practice. There are three categories of scientific awards: prize for best research published during the period preceding the ISC, prize for best regular poster, and prize for best poster by a young scientist.

The INDEPTH Prize for the best research article published in an international journal in the last two years before the conference was awarded to Clark SJ et al for the paper based on data from Agincourt titled: 'Young Children's Probability of Dying before and after Their Mother's Death: A Rural South African Population-Based Surveillance Study', PLoS Med, 2013;10 (3):e1001400. HDSS core mortality data for Agincourt, South Africa were collected on children 0–5 years of age from January 1, 1994 to December 31, 2008. The study showed that young children in lower



[ FROM TOP ] **The Executive Director delivering the State of the Network address; Prof. Peter Byass, SAC Chair presenting INDEPTH multi-centre work on Causes of death; SAC Member, Prof. Stacy Gage (left) poses with some of the young scientists; participant reviewing some of the posters.**



[ CLOCKWISE FROM TOP LEFT ] **Dr. Barni Nor of Sida; Dr. Michael Chew of the Wellcome Trust; Prof. Cyril Engmann, Bill and Melinda Gates Foundation; Board Chair Marcel Tanner with Head Wits SPH Laetitia Rispel and Deputy DG of Statistics South Africa, Risenga Maluleke at the Constitution Hill Reception; Ms. Kristen Stelljes, William and Flora Hewlett Foundation; Dr. Richard Suzman of NIA/NIH; Deputy Chief Justice addressing delegates at the Constitution Hill in Johannesburg.**

[Funder representatives] appreciated INDEPTH's efforts to generate, manage and share high quality data and commended the Network for its worthy endeavours.

income settings are more likely to die not only after their mother's death but also in the preceding months, when she is seriously ill.

The INDEPTH Prize for best regular poster went to Stephane Helleringer of Columbia University for the paper based on data from Niakhar HDSS titled: Improving siblings' survival histories: results from a randomized trial in Niakhar (senegal). The Prize for the Best Poster by a Young Scientist went to Ms. Georgina Badu-Gyan from Dodowa HDSS for her paper based on Africa Centre data titled: Factors Associated With Uptake Of Rotavirus And Pneumococcal Conjugate Vaccines Among Under-Five Children: Evidence From The Africa Centre HDSS. It was pleasing to note that Georgina is one of the INDEPTH-funded recent graduates from the Wits MSc population-based field epidemiology (PBF) programme (see section 3.1.1) and the poster based on a research paper accomplished in partial fulfilment of her degree at Wits.

Representatives of funding organisations from the Wellcome Trust (Dr. Michael Chew), Sida/Research Cooperation (Dr. Barni Nor), Bill & Melinda Gates (Prof. Cyril Engmann) NIH/NIA (Dr. Richard Suzman) and the Hewlett Foundation (Ms. Kristen Stelljes) spoke at the conference. They appreciate INDEPTH's efforts to generate, manage and share high quality data and commended the Network for its worthy endeavours. However the funders urged the organisation to make more efforts towards facilitating the translation of HDSS research evidence to influence policy and practice.

ISC participants had a rare opportunity of being hosted to a dinner at Constitution Hill. The occasion was graced by the Deputy Chief Justice of the Constitutional Court of the Republic of South Africa and the Chancellor of the University of Witwatersrand, Justice Dikgang

Moseneke as well as the Deputy Director-General, Statistics South Africa, Risenga Maluleke. Justice Moseneke urged scientists to exhibit firmness, neutrality and independence in their work to enable governments and policy-makers have confidence to implement their findings to improve the lives of the poor and vulnerable in society.

### 2.4.3 Evaluation of the ISC

The final words came from the Independent Assessor, Prof. Stig Wall (Umea University in Sweden) who summarised the conference topics using a bibliometric diagramme.



## 2.5 INDEPTH brainstorms with major stakeholders on statistical data analysis

A three-day meeting held in Accra in April 2013 with INDEPTH partners from the University Of Ghana, University of Southampton, UK, Heidelberg University in Germany and the South African Medical Research Council brainstormed novel methods of analyzing the quantum of data generated by INDEPTH member centres over the years and shared ideas on ensuring that more cross-site papers are produced and published in future. Participants produced a list of statistical analyses that can be undertaken using aggregated data from the member centres as well as further analyses that require more than the existing disaggregated level data.

The Executive Director of INDEPTH, Prof. Osman Sankoh, used the meeting to pre-launch INDEPTHStats, a platform for visualizing and disseminating longitudinal health and demographic surveillance system data on population, fertility, migration and mortality from the 48 INDEPTH member HDSS centres. The aim of this tool is to provide researchers, government officials, policy makers, academia and the general public with basic health and demographic information for a better understanding of health issues and population trends.



**Prof. Stig Wall, Independent Assessor of Umea University and Editor-in-Chief of GHA Journal and his summary of the topics handled at the ISC.**

# 3. CAPACITY STRENGTHENING AND TRAINING ACTIVITIES

During the year under review, INDEPTH placed significant emphasis on capacity strengthening and training. Apart from growing the talent of scientists in member centres and improving the capacity of their institutions to conduct world class research, INDEPTH has so far supported 40 students to undertake MSc studies in population-based field epidemiology at the University of Witwatersrand in South Africa. In addition, in 2013 INDEPTH, in partnership with the University of the Witwatersrand, introduced a new master's programme in research-oriented data management (RDM).

## 3.1 Scientific Development and Leadership Programme

The Scientific Development and Leadership programme is the flagship of INDEPTH's capacity strengthening and training initiatives. This programme has the following components: MSc. in Population-based Field Epidemiology at Wits University, South Africa; developing the curriculum for a MSc. in Research Database Management at Wits University, South Africa; MPH at the James P. Grant School of Public Health, BRAC University, Bangladesh; and Masters' training that may be supported elsewhere if considered relevant to the programme, as well as partial support to PhD training at South-based universities or on sandwich programmes.

### 3.1.1 Master's Training in Population-Based Field Epidemiology (PBFEE)

Established in 2005 in partnership with the Wits School of Public Health at the University of the Witwatersrand (Wits), in Johannesburg, South Africa, this programme is built around an 18-month Master's training in Population-based Field Epidemiology. It consists of two main components: one year of coursework and six months of practical training on the conduct of a research project in a field setting at one of several INDEPTH-Wits accredited HDSS learning centres. Now in its eighth year, the programme has supported a total of 40 MSc students since inception. In July 2013, two students completed the programme, while four new funded students were enrolled in February.

### 3.1.2 Master's Level Training For HDSS Data Managers Through a Research Database Management (RDM) Track

INDEPTH over the years has identified the urgent need to increase and strengthen capacity in advanced database management for research to support the ever-increasing quantity of health research conducted in low and middle income countries. This has been made possible by developing a new track in Research Database Management (RDM) to be incorporated into the existing partnership with the Wits University, South Africa. The RDM has been developed as a specialist qualification



with specific reference to HDSSs and embedded within the existing MSc in Population Field-based Epidemiology.

This track is expected to produce data scientists capable of understanding the research process, interacting with researchers and carrying out research-specific responsibilities such as data collection and storage. It will also help them in managing the design, implementation and operation of a system to extract, clean and produce analytical datasets from research databases for use by researchers, and by an international community of investigators under controlled access conditions. The graduates are expected to be able to lead data management teams, guide data management activities from data collection through to data processing and data analysis for publication, and also collaborate with scientists to develop data structures and apply data management software during various stages of research projects.

Supported by an INDEPTH grant from Sida/Research for Cooperation, Wits School of Public Health made considerable progress towards the final roll out and launch of the programme in 2013. A workshop at Wits School of Public Health in January reviewed the proposed curriculum for the course. Further to the workshop, two of the developed modules that form part of the RDM Masters' track were piloted by the Wits SPH as short courses. After the proposed RDM track was officially approved by Wits University, the course was advertised and applications received for the first batch of students in 2014. Eighteen students have been accepted, including a dozen staff from member HDSSs in six countries.

### 3.1.3 Master's Training At The James P. Grant SPH

In view of the success of the MSc training programmes developed in partnership with the Wits School of Public Health, several HDSS member centre leaders are anxious to have their staff go through the programme. However, since Wits is unable to cater for this growing need, the Secretariat is exploring other avenues for expanding the training options for the staff of member centres, especially at select South-based universities. In 2013 therefore, the Secretariat offered funding to two students to join the 2013/2014 batch of the MPH program with James P Grant SPH at BRAC University in Bangladesh.

### 3.1.4 Master's Training Elsewhere

To overcome other challenges faced by applicants from HDSSs such as the language barrier, there are attempts by the Secretariat to extend opportunities to non-Anglophone young scientists through partial support. One such option is the Masters' training in Health Economics and Health Care Management at the Bangkok Chulalongkorn University in Thailand. In 2013, INDEPTH provided partial support to a student from Filabavi HDSS in Viet Nam for MSc. training in Health Economics and Health Care Management at the Bangkok Chulalongkorn University in Thailand. Another partially-funded student successfully completed the same course in 2013.

The graduates are expected to be able to ... collaborate with scientists to develop data structures and apply data management software during various stages of research projects.



[ FROM TOP LEFT ] **Ms. Anne Makumi, Kilifi HDSS (Kenya); Ms. Georgina Badu-Gyan, Dodawa HDSS (Ghana); the WITS School of Public Health.**



[ CLOCKWISE FROM TOP LEFT ] **Four funded students for Wits MSc PBF 2013: Ms. Irene Azindow (Kintampo HDSS, Ghana), John Paul Kasule (Rakai HDSS, Uganda), Ms. Patricia Gweliwo (Navrongo HDSS Ghana), and Millogo Tieba (Kaya HDSS Burkina Faso); Participants at the Wits/INDEPTH Workshop in Johannesburg 25-26 Jan 2014.**

### 3.1.5 Doctoral Level Training Support

The Secretariat also tries to facilitate movement from MSc to PhD level training. In 2013, we provided partial support for two PhD students who will begin their studies in 2014 in South-based universities or sandwich programmes.

## 3.2 Young Scientists

As part of our commitment to strengthening of the research capacities of the next generation of scientists, every other year an average of fifteen young scientists from INDEPTH member HDSSs are given travel awards to attend and present posters at INDEPTH's scientific conference (ISC). 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 ISC.

For the 2013 ISC more than 60 abstracts were received from young scientists. Fourteen young scientists were funded to attend and present posters at the conference. At a pre-ISC Young Scientists workshop, Prof. Stacey Gage (Tulane University) gave a lecture on how to prepare posters. This was complemented by a practical component involving poster reviews and critiques of all the young scientists' posters indicating areas of improvement. Prof. Cheryl Moyer (University of Michigan) gave a lecture on translating data into publishable manuscripts. Following review of their drafts by senior INDEPTH scientists, the young scientists have been revising the manuscripts with the aim of turning them into publishable manuscripts.

### 3.3 INDEPTH Training and Research Centres of Excellence (INTREC)

The WHO's Commission on Social Determinants of Health argued in 2008 that the dramatic differences in health status between and within countries are intimately linked with degrees of social disadvantage. In 2012, INDEPTH launched the INDEPTH Training and Research Centres of Excellence (INTREC) project funded by the European Commission. INTREC action is envisioned to address health inequities in LMICs in Africa and Asia by developing sustainable capacity for research for health and its social determinants, and by facilitating the translation of research findings into policy and practice. INTREC also advocates for gender equity in health research by promoting women scientists.

INTREC activities are focused on four African (Ghana, South Africa, Tanzania, Kenya) and four Asian countries (Indonesia, Viet Nam, Bangladesh, India). Two training centres are being developed, in Ghana and in Indonesia. In 2013, the project's activities included the development of a training curriculum for social determinants of health, to provide INDEPTH scientists the tools to conduct both qualitative and quantitative research into the topic, and the training of 30 INDEPTH scientists. The first block (online course) on the framework of Social Determinants of Health was launched in November 2013 and runs until March 2014. Thirty trainees registered for the course, consisting of representatives of nineteen HDSSs in nine countries.

Also in 2013, in Accra, Ghana in March, INTREC held its first International Stakeholder Conference. Its theme was "Strengthening research and policy on social determinants of health in low and middle income countries in Asia and Africa". The 50 delegates to the meeting came from 11 countries and included representatives from INTREC partners, members of INTREC's International Advisory Committee, senior scientists from INDEPTHS health and demographic survey sites, policy makers, and experts in the field of education or research on social determinants of health.

### 3.4 Training Workshops

Training workshops remain a primary vehicle through which specific skills and improved methodological developments are conveyed to the wider membership of the INDEPTH network. The Secretariat places much emphasis on strengthening the capacity of its member centres in order to enhance their scientific and administrative productivity. In this regard, in 2013, a comprehensive programme for training was implemented throughout the year. In addition to those training sessions mentioned above and those embedded into some working group activities, the following workshops were organized for member centres.



[ TOP ] **Emmanuel K. Darkwa**  
(Dodowa HDSS, Ghana),  
JPS School of Public Health.

[ BOTTOM ] **Funded Masters**  
**Training students at**  
**Chulalongkorn University:**  
**Ms. Nghien Nguyen Minh**  
**Trang and Ms. Le My Lan**  
(Filabavi HDSS Vietnam).



[ CLOCKWISE FROM TOP ] **Young Scientists at the ISC2013 in Johannesburg; Strengthening Climate Mitigation and Adaptation in the Sahel and West Africa Workshop; INTREC Stakeholders meeting in Accra, March 2013.**

### 3.4.1 HDSS Cohort Profiles in International Journal of Epidemiology (IJE)

An agreement was reached in 2012 with the International Journal of Epidemiology (IJE) to publish cohort profiles of all INDEPTH member HDSSs. The first cohort profile writing workshop in collaboration with IJE was held in November 2012, with ten draft profiles submitted for review and seven member HDSSs physically represented. In 2013, seven of these profiles: Ballabgarh (India), Chililab (Vietnam), Dodowa (Ghana), Kaya (Burkina Faso), Manhica (Mozambique), Mbita (Kenya) and Niakhar (Senegal) were published, making a total of 15 since the launch issue. Following the Secretariat's request, the International Journal of Epidemiology (IJE) agreed to make all the published INDEPTH member cohort profiles "open access".

In addition to making the profiles open access, INDEPTH also secured authorization for free group subscription (or free online access to IJE) for all INDEPTH member centres.

### List of HDSS Cohort Profiles published (2013) in the IJE:

- Sheru Wanyua, Morris Ndemwa, Kensuke Goto, Junichi Tanaka, James K'Opiyo, Silas Okumu, Paul Diela, Satoshi Kaneko, Mohamed Karama, Yoshio Ichinose, and Masaaki Shimada: Profile: The Mbita Health and Demographic Surveillance System *Int. J. Epidemiol.* (2013) 42 (6): 1678- 1685 doi:10.1093/ije/dyt180
- Margaret Gyapong, Doris Sarpong, Elizabeth Awini, Alfred K Manyeh, Desmond Tei, Gabriel Odonkor, Irene A Agyepong, Precious Mattah, Peter Wontuo, Mary Attaa-Pomaa, John O Gyapong, and Fred N Binka: Profile: The Dodowa HDSS *Int. J. Epidemiol.* (2013) 42 (6): 1686- 1696 doi:10.1093/ije/dyt197
- Charfudin Saco, Ariel Nhacolo, Delino Nhalungo, John J Aponte, Quique Bassat, Orvalho Augusto, Inácio Mandomando, Jahit Sacarlal, Natu Lauchande, Betuel Sigaúque, Pedro Alonso, and Eusébio Macete: Profile: Manhiça Health Research Centre (Manhiça HDSS) *Int. J. Epidemiol.* (2013) 42 (5): 1309-1318 doi:10.1093/ije/dyt148
- Valerie Delaunay, Laetitia Douillot, Aldiouma Diallo, Djibril Dione, Jean-François Trape, Oleg Medianikov, Didier Raoult, and Cheikh Sokhna: Profile: The Niakhar Health and Demographic Surveillance System *Int. J. Epidemiol.* (2013) 42 (4): 1002-1011
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Training workshops remain a primary vehicle through which specific skills and improved methodological developments are conveyed to the wider membership of the INDEPTH network.

## 3.4.2 Data Management and Harmonization: INDEPTHStats and iSHARE2 Training Workshops

iSHARE2 is a major research data management project, which aims to strengthen cross-site data management by applying best practice methods of harmonisation, and to document and share HDSS data. Among the major accomplishments of the project in 2013 was the first iSHARE2 training workshop held in Pune in January, which was attended by eight centres, followed by the successful launch of the INDEPTH Data Repository on July

1. The launch attracted considerable interest and was the subject of a publication in *Lancet Global Health*. A second iSHARE2 training workshop was held at the Africa Centre, in Mtubatuba, South Africa in October. Six new centres participated, and helped generate a new micro dataset and associated INDEPTHStats indicators. The overall aim of each of these workshops is to prepare iSHARE2 participating member centres to use the Centre-in-the-Box (CiB) research data management appliance to extract, assure the quality of, document, share and analyze the INDEPTH Core Micro Dataset.

One of the landmark events of the period was the public launch of INDEPTHStats on 1st July 2013. Associated with this important event was intensified internal and external review of the data and key indicators computed thereof. The internal review of the indicators computed as well as plausibility checks prior to the launch enabled us to identify

bugs in the scripts developed for computation, and also gave the opportunity for participating centers to identify some issues in their respective data. On July 1st, the link to the online indicators went live with data for the following pioneer centers included: Africa Centre, Agincourt (South Africa), Chakaria and Matlab (Bangladesh), Chililab (Vietnam), Dodowa, Kintampo, and Navrongo (Ghana), Farafenni (Gambia), Kilifi, Kisumu and Nairobi (Kenya), Magu and Rufiji (Tanzania), Manhica (Mozambique), Niakhar (Senegal), Ouagadougou (Burkina Faso), and Vadu (India).

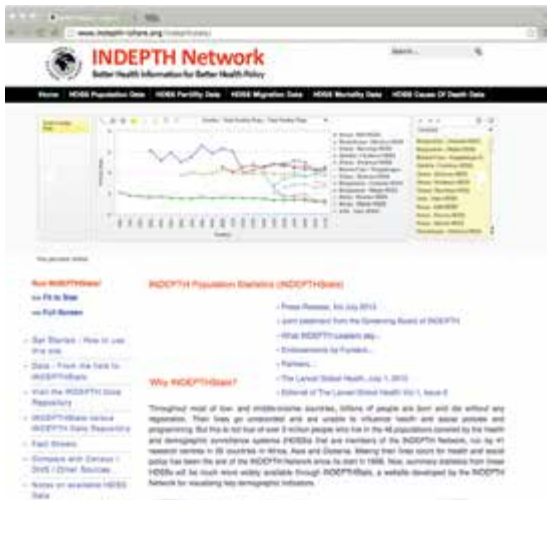


FIG. 13: INDEPTH Stats homepage.

## 3.5 Small Grants Programme

The goal of the INDEPTH Small Grants programme is to support research capacity strengthening among INDEPTH member centres. In 2013 the project focused on strengthening the capacity of researchers in three East African HDSSs (Ifakara, Kilifi and Nairobi) in the preparation of policy briefs through a training workshop. The four-day training for 16 representatives from the three HDSSs was held at in Nairobi in June.

### 3.6 Survey on Capacity Strengthening and Training at INDEPTH Member Centres

A survey was conducted with centre leaders on capacity strengthening and training priorities at member centres. The results of the survey were compiled, presented to and discussed by the Board in March 2013. Among the key areas of need identified were the following: longitudinal data management and data analysis methods; data verification methods and data quality control; scientific writing and publications; routine report production and proposal development; young scientists' training on research design and methodology; and long term training (Masters and PhD). See Figure 14.

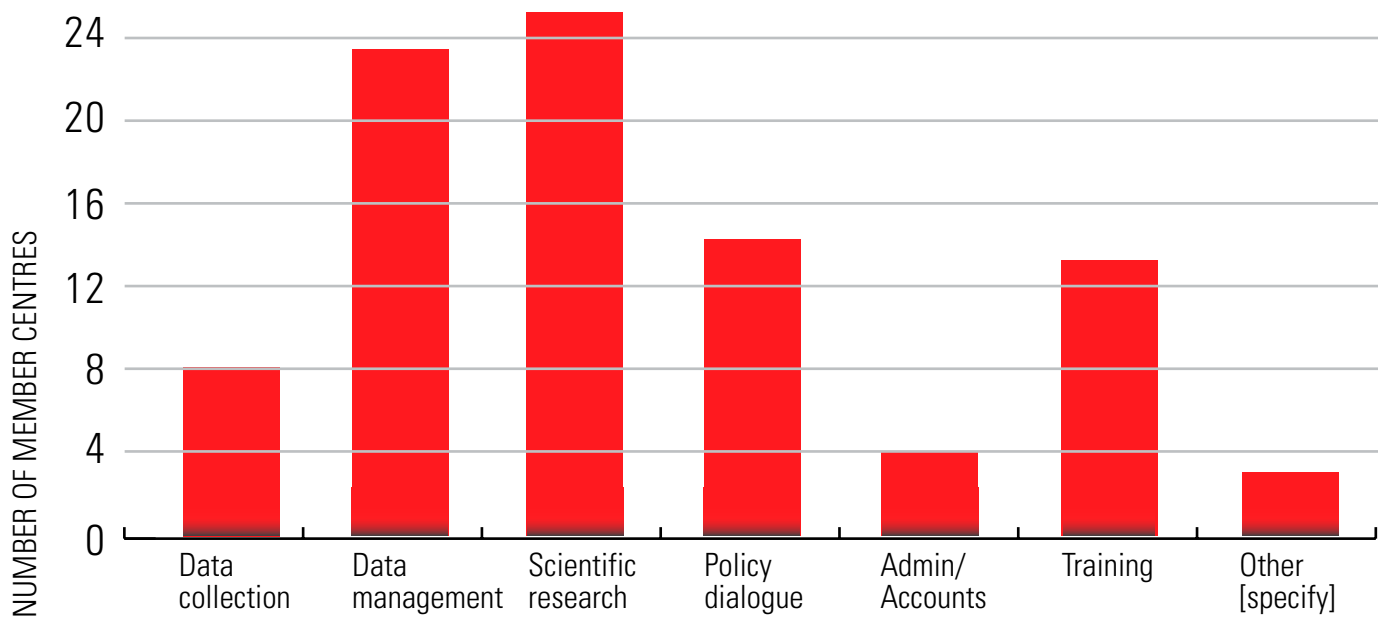


FIG. 14: Results of survey showing broad areas of capacity strengthening needs.

# 4. SUPPORTING DATA MANAGEMENT AND SHARING

Two major initiatives were undertaken during 2013 to promote improved data management and sharing of data.

## 4.1 iSHARE 2

The iSHARE2 project is the research data management component of the Wellcome Trust Strategic Award titled “Informing global efforts to improve the health and wellbeing of low and middle-income populations: The INDEPTH Network of Health and Demographic Surveillance Systems”, awarded in March 2012. The major accomplishment of the project during the reporting period was the successful launch of the INDEPTH Data Repository on July 1, 2013.

From the time of the launch (July 1) up to October 27, 2013 the six HDSS datasets on the repository had been downloaded 177 times (for an average of 30 downloads per dataset or 44 downloads per month) and the documentation had been accessed 19816 times (for an average of 3302 viewers per dataset or 4,954 viewers per month).

## 4.2 OpenHDS

Most HDSS centres use the Household Registration system (HRS2) to collect data from the field. This is a paper-based data collection system. The OpenHDS, on the other hand, is an electronic data collection system where data is collected in the field using a tablet. The system has built in checks that ensure elimination of errors. Data can then be uploaded directly from the tablet to data servers at the HDSS centres. The system is much cheaper to run than the HRS2.

With support from the Swiss TPH Team and the Secretariat to Ifakara HDSS, it was possible to migrate the Ifakara database onto the new platform in 2013. Plans have been made to continue to develop the software and documentation to aid the process of migrating all HDSS centres onto the OpenHDS.

The Policy Engagement and Communications Section used various tools in 2013 to project and promote INDEPTH Network as a relevant, reputable organisation that consistently provides health and demographic data to guide the setting of health priorities, policies and programmes. In addition, two INDEPTH communication officers, Ms. Baaba Johnson and Ms. Becky Kwei, visited the African Population and Health Research Centre (APHRC) in Nairobi, Kenya in April 2013, to see and learn what work has been done in the area of policy dialogue and engagement by the Policy Engagement and Communication (PEC) Division of the APHRC.



# 5. POLICY ENGAGEMENT AND COMMUNICATIONS

Some of the activities undertaken by the section are outlined below.

## 5.1 Media Relations

The section made significant strides in terms of strengthening media relations by ensuring extensive media coverage for programmes organised by the secretariat. For instance, the launch of INDEPTHStats and INDEPTH Data Repository on July 1 received extensive media coverage. Furthermore, the section worked with the African Media and Malaria Research Network (AMMREN) to produce a special edition of "Eyes on Malaria" magazine. The special edition was published to disseminate information on a paper titled, "The contribution of the INDEPTH Network to Malaria: A synthesis of Research Evidence Published from 1998 to 2009". The magazine was published and distributed during the ISC 2013 in South Africa.

A number of publications were produced in the course of the year. These included a factsheet booklet of member centres, a quarterly newsletter, and a flyer for the INDEPTH Scientific and Leadership programme. Site profiles of member centres were printed and displayed at ISC 2013 in South Africa. In addition, a documentary on the activities of INDEPTH is being produced. Plentiful footage has been gathered for the documentary, and the final product is expected in 2014.

## 5.2 External Engagement

In the course of 2013, several staff members at the INDEPTH Secretariat travelled to different places and countries on official missions. Such trips provided the exclusive opportunities to share the Network's experiences, mission, vision, achievements and challenges with the different audiences and normally served the purpose of strategically building and strengthening collaborations with key partners around the world. Among the major missions undertaken during 2013 are:

**Oslo, Norway (23-26 January):** Ms. Samuelina S Arthur, Research Fellow at the INDEPTH Secretariat attended the 7th Annual Research Conference on Population, Reproductive Health and Family Planning held in Oslo-Norway. She presented a poster titled "*The contribution of the INDEPTH HDSS platform to understanding sexual and reproductive health and wellbeing in low -and middle -income countries: The experiences of the 5 HDSSs*".

**Geneva, Switzerland (13-14 February):** Prof. Osman Sankoh, INDEPTH Executive Director attended the WHO expert meeting on Global Health Estimates. The meeting took stock of existing approaches in the field



**Samuelina (right) with other poster presenters from Ethiopia and Norway.**

of Global Health estimation and advised WHO on strengths and limitations. The expert meeting also discussed ways in which current estimation practices could be improved, including data sharing, methods and tools development and sharing, and country capacity strengthening.

**Ouagadougou, Burkina Faso (3-5 July):** Dr. Martin Bangha, INDEPTH Capacity Strengthening and Training Manager participated at the seminar for dissemination of the preliminary results of the Ouagadougou Urban HDSS in Burkina Faso. At this meeting Martin presented the newly launched INDEPTHStats web-based indicators and the INDEPTH Data Repository.



**Basel, Switzerland (19-22 August):** Prof. Osman Sankoh, Executive Director of INDEPTH attended a symposium organised by International Society for Environmental Epidemiology (ISEE). Among other things, the symposium reviewed the current state knowledge of the effects of weather on mortality in low- and middle-income countries in Africa and Asia. It was also an opportunity to highlight and discuss similarities and differences in the mortality weather relationship to the more frequent studied Organisation for Economic Co-operation and Development (OECD) countries.



**Lisbon, Portugal (3-4 September):** Prof. Osman Sankoh participated at the European & Developing Countries Clinical Trials Partnership (EDCTP) Stakeholder Meeting on HIV. This meeting was part of the preparations for the second programme of EDCTP2. The two-day event was attended by 74 participants, including researchers, representatives of product development partnerships and the pharmaceutical industry, policy makers, funding agencies and other likeminded organisations. INDEPTH funded Mr Tom Lutalo from Rakai HDSS, Uganda to attend the meeting.

[ FROM TOP ] **Dr. Martin Bangha making a presentation on INDEPTH at the Ouagadougou seminar; At the INSEE symposium in Basel: Osman Sankoh (right) with colleagues Joacim Rocklov (Umea University, Sweden) and Sari Kovats (LSHTM, UK).**

**Annecy, France (9-10 October):** The INDEPTH Executive Director attended a conference organised by the European Commission's Directorate for Research and Innovation on Global Research Collaboration for Infectious Disease Preparedness'. In cooperation with the Institute of Microbiology and Infectious Diseases (IMI) of the French National Alliance for Life Sciences and Health (AVIESAN) and the Fondation Mérieux, discussed how to best work together as a coordinated international multi-funder consortium with the goal of providing a quick research response in the case of emerging epidemics and to develop a short-, medium- and long-term research agenda to generate analysis to inform infectious disease preparedness, including addressing novel methodological issues. Osman's presentation titled: *INDEPTH Network – Promoting Global Research Collaboration from the Global South.*

**Ouagadougou, Burkina Faso (18-21 November):** Dr. Martin Bangha, Capacity Strengthening and Training Manager participated at the Institut Supérieur des Sciences de la Population (ISSP) organised Symposium on *Training and Research in Population and Health in French Speaking Africa: Current Situation, Challenges and Opportunities.* At this symposium the Martin gave a presentation on INDEPTH's capacity strengthening and training efforts with particular attention to

INDEPTHStats and the INDEPTH Data Repository as major resources for training and research in Africa.

**Geneva, Switzerland (8-9 December):** The INDEPTH Executive Director of INDEPTH attended the Global Health Statistics Reference Group meeting organised by WHO. Currently, country use of global health estimates for resource allocation and policy making is limited in most countries. WHO has an important role to bridge the gap between global and regional analytical work and countries to enhance evidence-based decision-making. The WHO Reference Group on Global Health Statistics (RGHS) provides advice on population-health related statistics of relevance to WHO with particular focus on mortality and causes of death.

**New York, USA (12-13 December):** Dr. Martin Bangha, the Capacity Strengthening and Training Manager participated at the Global Every Newborn Stakeholders Consultation Meeting convened by UNICEF and WHO. Through a consultative process, the Every Newborn effort aimed to develop an action plan to take forward the Global Strategy for Women's and Children's Health by focusing specific attention on newborn health and identifying actions for improving the linkages between reproductive, maternal and child health. The consultation meeting aimed among other things to stimulate global dialogue to promote coordinated stakeholder efforts to support the scale-up of evidence-based interventions to address preventable newborn deaths.

**Addis Ababa, Ethiopia (12-15 December):** The third international conference on family planning (icfp 2013) organized around the theme "full access, full choice" which was held in Addis Ababa, Ethiopia (12-15 December) was attended by Prof. Jacques Emina, the Programme Manager for Scientific Research and Co-ordination and Ms. Samuelina S Arthur, Research Fellow attended the International Conference on Family Planning. At this meeting, the INDEPTH team met with the EVIDENCE (a project on Family Planning which is being funded by USAID) partners (USAID, PopCouncil US & Ghana) to discuss the project and its implementation. The INDEPTH team also had side meetings with the HDSSs scientist who attended this meeting.



**Prof. Jacques Emina at the icfp 2013 meeting in Addis Ababa, Ethiopia.**













# 6. ADMINISTRATION

The following are the key administrative developments for INDEPTH in 2013.

## 6.1 Board Members, 2013

The new Board of Trustees was constituted at the AGM after an election on October 30, 2013. A chair, elected from among the members, leads the board. The board now consists of 11 members: six elected members representing the member centres of the network; three members appointed by the elected members; the executive director as ex-officio member and the chair of the Scientific Advisory Committee who is a co-opted member.













The new board members are:

	<b>Prof. Marcel Tanner, Chair, Director</b>	Swiss TPH	Switzerland
	<b>Dr. Eusebio Macete, Vice Chair, Centre Leader</b>	Manhica HDSS	Mozambique
	<b>Dr. Catherine Kyobutungi, Member</b>	Nairobi HDSS	Kenya
	<b>Dr. Abdramane Soura, Centre Leader</b>	Ouagadougou HDSS	Burkina Faso
	<b>Prof. Tran Huu Bich, Member, Centre Leader</b>	Chililab HDSS	Vietnam
	<b>Dr. Frank Odhiambo, Member, Centre Leader</b>	Kisumu HDSS	Kenya
	<b>Dr. Momodou Jasseh, Member, Centre Leader</b>	Farafenni HDSS	Gambia
	<b>Prof. Hans-Olov Adami, Member</b>	Harvard School of Public Health	USA
	<b>Dr. Timothy Evans, Member</b>	The World Bank	USA
	<b>Prof. Peter Byass, Member, Chair SAC</b>	UCGHR	Sweden
	<b>Prof. Osman Sankoh, Member, Executive Director</b>	INDEPTH Network	Ghana
	<b>Dr. Kofi Baku, Board Secretary</b>	University of Ghana	Ghana

## 6.2 Scientific Advisory Committee, 2013

The Scientific Advisory Committee (SAC) assists in maintaining the focus of INDEPTH on health, population and social issues and areas of greatest potential impact; encourages linkages between INDEPTH and related agencies, research bodies and networks; and helps maintain the highest scientific standard for INDEPTH studies. Members of the SAC are selected on their personal merits. They represent diverse constituencies including NGOs, academic institutions pharmaceutical and clinical research organizations, etc.

### Current members of the SAC are:

	<b>Prof. Peter Byass</b>	Umeå University, Sweden
	<b>Prof. Don de-Savigny</b>	Swiss Tropical and Public Institute, Switzerland
	<b>Prof. David Ross</b>	London School of Hygiene & Tropical Medicine, UK
	<b>Dr. Halima A Mwenesi</b>	African Leaders Malaria Alliance (ALMA), Kenya
	<b>Prof. Samuel Clark</b>	University of Washington, USA
	<b>Dr. Cheikh Mbacke</b>	Consultant, Senegal
	<b>Prof. Anastasia Gage</b>	Tulane University SPHTM Department of International Health and Development, USA
	<b>Dr. Ime Asangasi</b>	University of Oslo, Norway & Health Information Systems Programme, Norway/Nigeria
	<b>Mr. Davidson Gwatkin</b>	Results for Development Institute, Washington,
	<b>Prof. Philippe Bocquier</b>	Université Catholique de Louvain SSH/IACS, Belgium
	<b>Carla Abouzahr</b>	Consultant, Australia
	<b>Prof. Alan Lopez</b>	School of Population Health , The University of Queensland, Australia







## 6.3 New and Prospective Members


















The latest addition to the INDEPTH Network was the Birbhum HDSS in India, which joined in 2013. Birbhum is one of the 19 districts in West Bengal and is primarily a rural district. INDEPTH now has 42 member centres operating 49 HDSS.


















One of INDEPTH's outstanding commitments is to strengthen the technical and research capacities and skills of established member centres that run HDSS centres as well as support the establishment of new HDSS centres in low- and middle-income countries, thereby preparing them to make effective scientific contributions to INDEPTH when they become fully integrated members of the Network. In keeping with this commitment, INDEPTH has been providing technical support to three HDSS centres in Nigeria (Nahucho HDSS in Bungudu Local Government Area, Cross-River HDSS in Akpabuyo Local Government Area, and Oriade HDSS in Oyo State). Recently Nahucho HDSS was approved for full membership by the INDEPTH Board. We expect the two other HDSS centres to become members of the Network in the near future. Prof. Martin Meremikwu, leader of the Cross River HDSS which is operated by the University of Calabar in Nigeria, and which has benefited immensely from the technical expertise of INDEPTH scientists, particularly from the Navrongo HDSS, visited the INDEPTH Secretariat in 2013 to present an update on CRHDSS work. He informed the Secretariat that the primary objective of the CRHDSS is to generate reliable data on vital events, especially child health, reproductive health and the control of endemic infectious diseases, notably malaria, HIV/AIDS and tuberculosis.

## 6.4 INDEPTH Centre Leaders, 2013








INDEPTH membership is given to institutions that run health and demographic surveillance systems (HDSSs). These are the parent institutions which we refer to as member centres of INDEPTH. A director of such a centre or his/her designee is referred to by INDEPTH as a centre leader. However, some centres have two or more HDSS field sites. Each of these HDSSs may have heads (field station managers, for example). INDEPTH considers these heads of field sites as Site Leaders. ALL centre/site leaders receive communications from the Secretariat.

Site Leader	Name	Country
 <b>Dr. Abraham J. Herbst</b>	ACDIS HDSS	South Africa
 <b>Prof. Steve Tollman</b>	Agincourt HDSS	South Africa
 <b>Prof. Shashi Kant</b>	Ballabgarh HDSS	India
 <b>Dr. Valerie Delaunay</b>	Bandafassi HDSS	Senegal
 <b>Dr. Wasif Khan</b>	Bandarban HDSS	Bangladesh
 <b>Prof. Peter Aaby</b>	Bandim HDSS	Guinea Bissau

	<b>Dr. Miteke Molla</b>	Butajira HDSS	Ethiopia
	<b>Dr. Abbas Bhuiya</b>	Chakaria HDSS	Bangladesh
	<b>Prof. Tran Huu Bich</b>	Chililab HDSS	Vietnam
	<b>Prof. Yigzaw Kebede</b>	Dabat HDSS	Ethiopia
	<b>Prof. Marriane Alberts</b>	Dikgale HDSS	South Africa
	<b>Dr. Tran Khan</b>	Dodalab HDSS	Vietnam
	<b>Prof. Margaret Gyapong</b>	Dodowa HDSS	Ghana
	<b>Dr. Momodou Jasseh</b>	Farafenni HDSS	Gambia
	<b>Prof. Nguyen T. K. Chuc</b>	Filabavi HDSS	Vietnam
	<b>Prof. Fasil Tessema</b>	Gilgel Gibe HDSS	Ethiopia
	<b>Dr. Salim Abdullah</b>	Ifakara HDSS	Tanzania
	<b>Prof. David Gawutudde</b>	Iganga/Mayuge HDSS	Uganda
	<b>Prof. Sureeporn Punpuing</b>	Kanchanaburi HDSS	Thailand
	<b>Ms. Mia Crampin</b>	Karonga HDSS	Malawi
	<b>Prof. Seni Kounada</b>	Kaya HDSS	Burkina Faso
	<b>Dr. Nega Assefa</b>	Kersa HDSS	Ethiopia
	<b>Prof. Thomas Williams</b>	Kilifi HDSS	Kenya

	<b>Mr. Yohannes Adama</b>	Kilite Awlaelo HDSS	Ethiopia
	<b>Dr. Seth Owusu-Agyei</b>	Kintampo HDSS	Ghana
	<b>Dr. Frank Odhiambo</b>	Kisumu HDSS	Kenya
	<b>Dr. Walter Otieno</b>	Kombewa HDSS	Kenya
	<b>Mr. Mark Urassa</b>	Magu HDSS	Tanzania
	<b>Dr. Eusebio Macete</b>	Manhica HDSS	Mozambique
	<b>Dr. Kim Streatfield</b>	Matlab HDSS	Bangladesh
	<b>Prof. Masaaki Shimada</b>	MBITA	Kenya
	<b>Dr. Valerie Delaunay</b>	Mlomp HDSS	Senegal
	<b>Mr. Alabi Oluyomi Olatunji</b>	Nahucho HDSS	Nigeria
	<b>Dr. Alex Chika Ezeh</b>	Nairobi HDSS	Kenya
	<b>Prof. Halidou Tinto</b>	Nanoro HDSS	Burkina Faso
	<b>Dr. Abraham Oduro</b>	Navrongo HDSS	Ghana
	<b>Dr. Ali Sie</b>	Nouna HDSS	Burkina Faso
	<b>Dr. Abdramane Soura</b>	Ouagadougou HDSS	Burkina Faso
	<b>Dr. Suparat Phuanukoonnon</b>	PiH HDSS	Papua New Guinea
	<b>Prof. Siswanto Wilopo</b>	Purworejo HDSS	Indonesia













	<b>Prof. Nelson Sewankambo</b>	Rakai HDSS	Uganda
	<b>Dr. Honorati Masanja</b>	Rufiji HDSS	Tanzania
	<b>Dr. Sodiomom Sirima</b>	Sapone HDSS	Burkina Faso
	<b>Prof. Bassirou Bonfoh</b>	Taabo HDSS	Côte d'Ivoire
	<b>Dr. Sanjay Juvekar</b>	Vadu HDSS	India
	<b>Mr. Bakary Sonko</b>	West Kiang HDSS	Gambia
	<b>Dr. Suparat Phuanukoonnon</b>	Wosera	Papua New Guinea

## 6.5 Secretariat Staff, 2013






INDEPTH has a permanent Secretariat which is based in Accra, Ghana. There are satellite INDEPTH Secretariats at the University of the Witwatersrand in Johannesburg, South Africa; Mtubatuba, South Africa; Pune, India; and Nairobi, Kenya.

### Core Staff

	<b>Prof. Osman A. Sankoh</b>	Executive Director	Sierra Leonean
	<b>Dr. Martin Bangha</b>	Capacity Strengthening and Training Manager	Cameroonian
	<b>Prof. Jacques Emina</b>	Science Programme Manager	Congolese
	<b>Prof. Steve Tollman</b>	Principal Scientist	South African
	<b>Sixtus Apaliyah</b>	Senior Finance Manager	Ghanaian
	<b>Titus Tei</b>	General Projects & Information Systems Manager	Ghanaian
	<b>Felicia Manu</b>	Grants Manager	Ghanaian

	<b>Margaret Bugase</b>	Administrative Manager	Ghanaian
	<b>Adam Osman</b>	Senior Accountant	Ghanaian
	<b>Francis A. Ameni</b>	Information & Communications Technology Officer	Ghanaian
	<b>Samuelina Siipara Arthur</b>	Research Fellow	Ghanaian
	<b>Baaba Johnson</b>	Communications Officer	Ghanaian
	<b>Gloria Kessie</b>	Finance Officer	Ghanaian
	<b>Caroline Tekyi-Mensah</b>	Senior Executive Assistant	Ghanaian
	<b>Beatrice Afari Yeboah</b>	Capacity Strengthening and Training Assistant	Ghanaian
	<b>Peter Asiedu</b>	Administrative Officer (Logistics)	Ghanaian
	<b>Berlinda Azanu</b>	Administrative Assistant (Grants and Ticketing)	Ghanaian

## The INDEPTH Effectiveness and Safety Studies of Anti-malarial Drugs in Africa (INESS)

	<b>Prof. Fred Binka</b>	Principal Investigator	Ghanaian
	<b>Dr. Bernhards Ogutu</b>	Senior Clinical Trialist	Kenyan
	<b>Dr. Rita Baiden</b>	Clinical Trialist	Ghanaian
	<b>Martin Adjuik</b>	Statistician	Ghanaian
	<b>Raymond Akparibo</b>	Accountant	Ghanaian







## 6.5 Recognition and Awards

Prof. Osman Sankoh, the INDEPTH Executive Director was honoured in 2013 by the Faculty of Health Sciences of the University of the Witwatersrand in Johannesburg, South Africa for his contribution to research. The Faculty presented the award to Osman during the INDEPTH Scientific Conference hosted by Wits University in October 2013.

INDEPTH usually recognises the contributions of Board and SAC members. At the ISC 2013 in Johannesburg, the following individuals were awarded for their outstanding contribution to INDEPTH during a dinner at Constitution Hill. They are:



**Prof. Osman Sankoh,  
INDEPTH Executive Director**

	<b>Prof. Margaret Gyapong</b>	As a member of the Board of Trustees
	<b>Dr. Ali Sie</b>	As a member of the Board of Trustees
	<b>Dr. Sanjay Juvekar</b>	As Vice Chair of the Board of Trustees
	<b>Prof. Kathleen Kahn</b>	As a member of the Board of Trustees
	<b>Dr. Honorati Masanja</b>	As a member of the Board of Trustees
	<b>Dr. Rosalia Sciortino</b>	As a member of SAC

# 7. FINANCIAL ISSUES

## 7.1 Grants Administration

Support to the Secretariat for INDEPTH activities came from different sources and was used for many different activities. Some notable sources in 2013 were Sida, NIH/Wits, Save the Children, UNESCO, MRC (South Africa), Ministry of Health of Ghana, Population Council, Rockefeller Foundation, Wellcome Trust and ICF Macro International. Funds supported general operations of the Secretariat as well as ongoing projects.

## 7.2 Audited Financial Report 2013

### FINANCIAL STATEMENTS 31 DECEMBER 2013, INDEPTH NETWORK

Report of the Board of Trustees	51
Independent Auditor's Report	52
Statement of Financial Position	54
Statement of Financial Performance	55
Cash Flow Statement	56

**REPORT OF THE TRUSTEES  
TO THE MEMBERS OF  
INDEPTH NETWORK**

The Trustees present their report and financial statements of INDEPTH Network for the year ended 31 December 2013.

**TRUSTEES' RESPONSIBILITY FOR THE FINANCIAL STATEMENTS**

The company's Board of Trustees is responsible for the preparation and fair presentation of these financial statements comprising the statement of financial position at 31 December 2013, the statement of financial performance, the statement of changes in net asset and the statement of cash flow for the year then ended, and the note to the financial statements, which include a summary of significant accounting policies and other explanatory notes in accordance with International Public Sector Accounting Standards (IPSAS) and in the manner required by the Companies Act 1963, (Act 179) and for such internal control as the board determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

The Trustees have made an assessment of the ability of the Network secretariat to continue as a going concern and have no reason to believe the organisation will not be a going concern in the year ahead.

**INCORPORATION AND PRINCIPAL ACTIVITIES**

INDEPTH Network is an international organisation for the demographic evaluation of populations and their health in developing countries. It is a not-for-profit organisation that currently consists of 43 member centres running 49 Health and Demographic Surveillance System (HDSS) in Africa, Asia and Oceania. It was established in 1998 and incorporated in Ghana as a company limited by guarantee in 2002 under the Companies Act, 1963 (Act 179).

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 Health and Demographic Surveillance System (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.

**APPROVAL OF THE FINANCIAL STATEMENTS**

The financial statements of the Network as indicated above were approved by the Board of Trustees on 27 May, 2014 and are signed on their behalf by:

  
.....  
**TRUSTEE**

  
.....  
**TRUSTEE**



**INDEPENDENT AUDITOR'S REPORT  
TO THE MEMBERS OF  
INDEPTH NETWORK**

**Report on the Financial Statements**

We have audited the financial statements of INDEPTH Network which comprise the statements of financial position at 31 December 2013, the statement of financial performance, statement of changes in net assets and cash flow for the year then ended, and the notes to the financial statements which include a summary of significant accounting policies and other explanatory notes as set out on pages 6 to 23.

*Trustees' Responsibilities for the Financial Statements*

The Trustees are responsible for the preparation and fair presentation of these financial statements in accordance with International Public Sector Accounting Standards, and in the manner required by the Companies Act 1963, (Act 179) and for such internal control as the 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 these 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 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 judgment, 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 and fair presentation of the financial statements 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 management, 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 audit opinion.

*Opinion*

In our opinion, the financial statements give a true and fair view of the statement of financial position of INDEPTH Network Secretariat at 31 December 2013, statement of financial performance, statements of changes in net assets and cash flows for the year ended in accordance with International Public Sector Accounting Standards and the Companies Act 1963, (Act 179).



**INDEPENDENT AUDITOR'S REPORT  
TO THE MEMBERS OF  
INDEPTH NETWORK (CONT'D)**

**Report on Other Legal and Regulatory Requirements**

*Compliance with the requirements of Section 133 and fifth Schedule of the Companies Act 1963, (Act 179)*

We have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purpose of our audit.

In our opinion, proper books of account have been kept and the statement of financial position and statement of financial performance are in agreement with the books of accounts.

Signed by: Nathaniel D. Harley (ICAG/P/1056)

For and on behalf of:

KPMG: (ICAG/F/2014/038)

CHARTERED ACCOUNTANTS

13 YIYIWA DRIVE, ABELENKPE

P O BOX GP 242

ACCRA

27 May ..... 2014

**INDEPTH NETWORK**

*(A Company Limited by Guarantee)*

**STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2013**

	Note	2013 US\$	Restated 2012 US\$
<b>ASSETS</b>			
<b>Non-current assets</b>			
Property, plant and equipment	16	86,378	104,157
<b>Current assets</b>			
Cash and cash equivalents	17	8,573,481	13,700,335
Receivables from non-exchange transactions	18	1,571,045	1,418,090
Receivables from exchange transactions	19	17,472	40,224
Prepayment	20	16,936	60,135
<b>Total current assets</b>		<u>10,178,934</u>	<u>15,218,784</u>
<b>Total assets</b>		<u><u>10,265,312</u></u>	<u><u>15,322,941</u></u>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Accrued expenses and payables	21	100,800	248,251
Committed grants deferred	29	7,777,907	10,963,995
<b>Total liabilities</b>		<u>7,878,707</u>	<u>11,212,246</u>
<b>Net assets</b>		<u><u>2,386,605</u></u>	<u><u>4,110,695</u></u>
<b>Financed by:</b>			
Endowment fund	22	1,375,567	-
Accumulated Surplus		1,011,038	4,110,695
		<u>2,386,605</u>	<u>4,110,695</u>



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**TRUSTEE**



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**TRUSTEE**



**INDEPTH NETWORK**  
*(A Company Limited by Guarantee)*  
**STATEMENT OF FINANCIAL PERFORMANCE**  
**AT 31 DECEMBER 2013**

	Note	2013 US\$	Restated 2012 US\$
<b>Revenue</b>			
<b>Funds received from donors</b>			
Secretariat-core activities	5	1,374,925	2,757,032
Programmes	6	4,372,107	4,279,437
		-----	-----
<b>Sub-total</b>		<b>5,747,032</b>	<b>7,036,469</b>
		-----	-----
Other revenue	7	361,646	73,696
		-----	-----
<b>Total revenue</b>		<b>6,108,678</b>	<b>7,110,165</b>
		-----	-----
Governance meeting expenses	8	157,679	164,374
Scientific workshop and coordination expense	9	3,713,403	2,781,242
Capacity strengthening workshop expenses	10	470,769	434,347
Annual general and scientific meetings	11	271,374	178,935
Sub grants to member centres	12	2,397,054	2,801,667
General secretariat running costs	13	774,919	653,341
		-----	-----
<b>Total expenditure</b>		<b>7,785,198</b>	<b>7,013,906</b>
		-----	-----
<b>(Deficit)/surplus before financial income and expense</b>		<b>(1,676,520)</b>	<b>96,259</b>
		-----	-----
Financial income	14	22,102	36,797
Financial expense	15	(69,672)	(69,494)
		-----	-----
<b>Net financial expense</b>		<b>(47,570)</b>	<b>(32,697)</b>
		-----	-----

**INDEPTH NETWORK**  
*(A Company Limited by Guarantee)*  
**STATEMENT OF CASH FLOWS**  
**FOR THE YEAR ENDED 31 DECEMBER 2013**

	Note	2013 US\$	Restated 2012 US\$
(Deficit)/surplus for the year		(1,724,090)	63,562
Depreciation for the year		39,481	32,293
Interest income		(22,102)	(36,797)
(Increase)/decrease in receivables from non-exchange transactions		(152,955)	64,625
Decrease/(increase) in receivables from exchange transactions		22,752	(8,924)
Decrease/(increase) in prepayments		43,199	(33,295)
Decrease in payables		(147,451)	(71,984)
Change in net deferred grants		(3,186,088)	6,533,061
Loss on disposal of plant and equipment		12,552	-
		-----	-----
Net cash flow from operating activities		(5,114,702)	6,542,541
		-----	-----
<b>Cash flows used in investing activities</b>			
Acquisition of property, plant and equipment	16	(41,918)	(8,223)
Proceeds from disposal of plant and equipment		7,664	-
Interest received		22,102	36,797
		-----	-----
Net cash (used in)/generated from investing activities		(12,152)	28,574
		-----	-----
<b>Net (decrease)/increase in cash and cash equivalents</b>		<b><u>(5,126,854)</u></b>	<b><u>6,571,115</u></b>
<b>Movement in cash and cash equivalents</b>			
Cash and cash equivalents at beginning of the year		13,700,335	7,129,220

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