



# INDEPTH Network

*Better Health Information for Better Health Policy*



2016  
ANNUAL REPORT

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# I. Message from the Executive Director

The year 2016 has ended. I am pleased to say that despite significant challenges, we made progress. I wish to thank all – the Board, Scientific Advisory Committee (SAC), Centre Leaders and their institutions, Working Group and Project Leaders, Funders, Partners/ Collaborators, Research Participants and Communities where our centres conduct research, and my team at the INDEPTH Resource & Training Centre in Accra - for your continued support and commitment at every stage of our work.

The Network held its 16th Annual General Meeting in Kampala, Uganda, from 16-18 November 2016. The forum discussed organisational matters of the Network, elected officers, reviewed reports from the Executive Director and gauged our progress.

Highlights of this year's AGM were the presentation and discussion of the new INDEPTH Strategic Plan 2017-2021 and rebranding of the Secretariat in Accra that will from now be known as the INDEPTH Resource & Training Centre (iRTC) in order to better reflect the work of the office.



Our new INDEPTH vision is: “To be a trusted source for evidence supporting and evaluating progress towards health and development goals.”

Our new INDEPTH mission: “To lead a coordinated approach by the world's health and demographic surveillance systems to provide timely longitudinal evidence across the range of transitioning settings to understand and improve population health and development policy and practice.”

**Our new INDEPTH Strategic Objectives are to:**

1. Enhance the INDEPTH Network's capabilities:
  - Invest to improve and expand the underlying longitudinal, population-based tracking platform
  - Continue to ensure ethically sound research sensitive to local circumstances
2. Conduct multi-centre research, leveraging longitudinal tracking
3. Enrich & guide policy: linked to SDGs and using our accurate data
  - Address neglected issues and the impact of social inequality
4. Strengthen capacity of INDEPTH member centres and researchers
5. Build effective partnerships with key national/int'l partners
  - Governments: statistics offices, local government, health and development ministries and agencies,
  - Research and educational institutions
  - International policy bodies (WHO, UN)

During the year we continued to strengthen data management systems and harmonized data across member centres alongside training

of a new generation of data managers and scientists. Further strides were made towards assisting member centres to migrate from paper to electronic data capture using the OpenHDS platform, to which we are very grateful for a technical collaboration with colleagues at the Swiss TPH in Basel, Switzerland.

In keeping with our annual commitment, the update of INDEPTH Data Repository ([www.indepth-ishare.org](http://www.indepth-ishare.org)) and the INDEPTHStats ([www.indepth-ishare.org/indepthstats](http://www.indepth-ishare.org/indepthstats)) with new data were effectively accomplished on 1 July 2016. This update brings the coverage of datasets reflected in INDEPTHStats to 26 member research centres in Africa and Asia, which include 32 HDSS field sites. Moreover, at the completion of the July 1st update, the INDEPTH Data Repository had data on over 1.6 million individuals and more than 25 million person-years of observation representing the first harmonised database of longitudinal population-based data from low- and middle-income countries. Going forward, these annual updates will be accompanied with a commentary piece published in an international journal.

In 2016, we continued efforts to support MSc and PhD training. We had five

continuing MSc trainees at the University of the Witwatersrand in Johannesburg, South Africa and two PhD studentships were awarded. We are grateful to Sida/Research Cooperation and Hewlett Foundation who made this support possible.

I recognise the efforts of my team, Working Groups and Project Leaders on fundraising. We together contributed to 20 proposals, which would have raised a total of \$71 million for research, if they were all funded. We are still awaiting results of several of the grant applications.

There were 12 active Working Groups with 10 ongoing Network projects in 2016. The projects included iHOPE which is part of the Health Systems Working Group and is funded by the Gates Foundation. OPTIMUNISE Project of the Vaccination Working Group (funded by the EU), held its final dissemination workshop in 2016. The Wellcome Trust funds ABACUS, an INDEPTH project on anti-microbial resistance, while Every Newborn Measurement Improvement Plan for Maternal and Peri-natal Health Metrics (ENAP) is funded by the Children's Investment Fund Foundation.

Thanks to Sida/Research Cooperation, the Network's new surveillance system – the comprehensive health and epidemiological

surveillance system (CHESS), is implementing a crystallisation phase in Nanoro, Burkina Faso. CHESS is an INDEPTH innovative approach that adds morbidity surveillance to the usual mortality surveillance.

INDEPTH continued to maintain existing and pursue new strategic partnerships. We strengthened our ties with UK higher education institutions through new partnerships with the University of Southampton, University of Aberdeen, University Medical Centre Hamburg-Eppendorf, and Kings College. We partnered with Potsdam Institute for Climate Impact Research in Germany for a proposed study in climate and health and with Berner Fachhochschule in Switzerland to develop a proposal on data usage within communities.

We started implementation of the new Policy Engagement and Communications (PEC) strategy for the Network. The strategy which ensured better coordination of PEC activities, has also been integrated into the new INDEPTH Strategic Plan 2017-2021. External engagements contribute to the visibility of INDEPTH work and provide opportunities for interacting with policymakers and other stakeholders.

We attended a few important international forums including those on improvement of Civil Registration and Vital Statistics in Africa.

We also organised an In-Country Research to Policy meeting in Addis Ababa, Ethiopia, in September where researchers, academicians, policymakers, public health and media practitioners gathered to discuss challenges and practical ways of bridging the gap between research and policy/practice within the health system in Ethiopia. Similar meetings were held in Ghana, India and Tanzania in 2014 and 2015.

The new INDEPTH website became operational at the beginning of the year and has been well received with the monthly average number of visitors doubling during the year.

The main challenge was limited core funds to

support the growing need of our activities. We will continue to work hard to raise funds through writing proposals for grants. We will also continue to incorporate key components of training into the various funded projects. In parallel we will continue active search and identifying various partner opportunities that can benefit the Network. Another key strategy is to fundraise for the INDEPTH Endowment Fund which has now been established by a Board resolution. We will accept donations that will help support the Network.

I am very grateful to our core support funders Sida/Research Cooperation, William & Flora Hewlett Foundation and Wellcome Trust. We also appreciate the support from several

funders who funded various INDEPTH projects in 2016: Bill & Melinda Gates Foundation, EU/Staten Serum Institute, EU/Heidelberg University, NIH/Wits Health Consortium, DANIDA/Staten Serum Institut, USAID/Population Council, CIFF/LSHTM, ICF Macro International, Bloomberg/SwissTPH, Paul G. Allen Family Foundation/IHME and WHO.

I hope 2017 is a year of great happiness and success for you and for us.

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

# Summary of Progress in 2016 in Relation to Strategic Objectives

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

### ***Drafting Strategic Plan 2017-2021***

One of the key achievements this year was the brainstorming and identification of emerging opportunities and future strategic direction for the Network. A successful strategic planning meeting was convened in Johannesburg, South Africa from 4-6 August 2016. This allowed for refining the INDEPTH Vision and Mission and Strategic Objectives. Moreover, a general consensus was reached on main multi-centre study opportunities for the next 5-years and beyond.

### ***Improving data management systems and data sharing***

INDEPTH in 2016 continued to strengthen data management systems and harmonized data across member centres alongside training of a new generation of data managers and scientists. Further strides were made towards assisting member centres to migrate from

paper to electronic data capture using the OpenHDS platform. With four INDEPTH members already using this platform for capturing data, a week-long training was provided for representatives from Nouna HDSS (Burkina Faso); Navrongo HDSS (Ghana); Chokwe HDSS (Mozambique); Agincourt HDSS (South Africa) and Iganga Mayuge HDSS (Uganda) to acquire knowledge on OpenHDS setup and its implementation. This brought the number of members trained on this to over 20.

In keeping with our annual commitment, the update of INDEPTH Data Repository and the INDEPTHStats with new data were effectively accomplished on 1 July 2016. This update brings the coverage of datasets reflected in INDEPTHStats to 26 member research centres in Africa and Asia, which include **32** HDSS field sites. The July 1<sup>st</sup>, 2016 update of the data repository brought the coverage datasets to 25 member health research centres in Africa and Asia, which include **27** HDSS field sites. Moreover, at the completion of the July 1<sup>st</sup>, update, the INDEPTH Data Repository had data on over 1.6 million individuals and more than 25

million person-years of observation representing the first harmonised database of longitudinal population-based data from LMICs (for a total of 66 published datasets since inception in July 2013).

The July 1<sup>st</sup> 2016 update also included the following INDEPTH multicentre project dataset: *MADIMAH – Multi-centre Analysis of the Dynamics of Internal Migration And Human Capital in six INDEPTH Centres in sub-Saharan Africa.*

### ***Training Support***

In 2016, we continued efforts to support MSc and PhD training. We had five (5) continuing MSc trainees at the University of the Witwatersrand in Johannesburg, South Africa and two (2) PhD studentships (project-based) were awarded.

### ***Comprehensive inventory of INDEPTH's contribution to capacity strengthening***

There are a number of ongoing or completed PhD as well as Masters' studies that have been (or are being) conducted within the framework

of various INDEPTH working groups (WG) and/or Projects (i.e. using wholly WG/project data or in conjunction with other public access databases). Following discussions during the strategic planning meeting in Johannesburg, it was recommended that we document these trainees as evidence of the INDEPTH wider contribution to capacity strengthening. We have initiated the process.

### **Plans for the construction of an INDEPTH Training Centre**

A feasibility study report on the construction of an INDEPTH Training Centre was completed by KPMG and presented to the Board during the March 2016 meeting in Accra. After thorough review, the project was supported by the Board. However, given current funding circumstances the project is on hold until the Secretariat is able to raise the necessary funds.

### **Main Challenges**

The main challenge in 2016 remains limited dedicated funds for capacity strengthening. For this reason, we had to focus more on supporting the continuing students and even suspended some training workshops. We will continue the efforts to address these challenges in 2017 through soliciting for more dedicated funds to cover training activities as well as identifying and engaging other university partners for joint efforts to foster this objective. We will also

continue to incorporate key components of training into the various funded projects. In parallel we will continue active search and identifying various partner opportunities that can benefit members and engage members to ensure that they co-share in the training of their respective staff.

### **Objective 2: To stimulate, co-ordinate and conduct cutting-edge multicentre health and demographic research**

#### **Working Groups**

In 2016, there were 11 active Working Groups. Four of these groups had ongoing projects: (1) the iHOPE project as part of the Health Systems Working Group (funded by the Gates Foundation for \$2,250,080 between 2016 and 2018); (2) the OPTIMUNISE project which is implemented by the Vaccination Working Group (funded by the EU between 2011 and 2016 at a cost of €149,998 (\$165,110)); (3) the Cause of Death Determination (CoDD) Using Inter VA-4 project which is undertaken by the CoDD Working Group and; (4) the Navrongo Newborn study undertaken as part of the Maternal and Child Health (MNCH). CoDD and the Navrongo study are both funded by INDEPTH Core Support. Two Working Groups started new projects having been successful in securing funds in 2015. The Antibiotics Resistance Working Group began the ABACUS

project (funded by the Wellcome Trust for €799,828 (\$880,202) for three years). The MNCH Working Group also had the inception for the project 'Every Newborn Measurement Improvement Plan for Maternal and Peri-natal Health Metrics (ENAP)' in 2016 (funded by the Children's Investment Fund Foundation for £802,079 (\$1,132,371) over five years). With new partners – Vienna Institute of Demography (Austria) and University of Newcastle (Australia) – the Education Working Group developed a 3-year proposal for the Economic Social Research Council UK costing £689,612 (\$858,832); we are yet to have a decision on the proposal.

#### **Interest Groups**

Six Interest Groups were active in 2016. All groups were keen to raise funds but only one could find appropriate calls to submit a proposal. The Nutrition Group contributed to writing two proposals: (1) "UK/India/Africa Network for Adolescent Nutrition", led by the University of Southampton, was submitted to the UK Medical Research Council- Global Challenges Research Fund for £600,000; and (2) NUTRI-SCOPE, led by Potsdam Institute for Climate Impact Research, Germany, was submitted to the Wellcome Trust for €9,146,672. Both proposals were invited to stage two of applications; unfortunately NUTRI-SCOPE was not successful; we wait to hear

the outcome of the other proposal. The Mental Health Group was reconstituted in September when 13 centres confirmed their interest in joining the group. In late October, a scoping workshop was convened in Accra inviting seven of the 13 sites that had previous experience in conducting research on mental health. The workshop succeeded in developing four concept notes that the team hopes to use for future grant calls; as well as securing a commitment from the Secretariat to invest \$35,000 to strengthen mental health research at the seven centres.

### **Strategic Group**

In 2015 we reported that the Data Analysis Strategic Group had a proposal development workshop to draft a concept note for the Wellcome Trust Enhancement Grant. The team succeeded in drafting and submitting a concept note – “Assessing the Epi-demographic Transitions in Africa and Asia from Established Population-based Surveillance” – for \$100,000 over 6 months. In January 2016, the Wellcome Trust invited the group to submit a full proposal which unfortunately was unsuccessful.

### **Network Projects**

There were ten ongoing network projects in 2015 including those indicated above in the Working Groups section. Two large projects (ABACUS and ENAP, see above) and one pilot

(CHESS – Comprehensive Health and Epidemiological Surveillance System) started in 2016. CHESS was funded by the Swedish International Development Agency (Sida) for \$460,000 as part of Sida's core support to INDEPTH. During the year, two grant proposals have been submitted in an effort to secure funds to extend the scope of the pilot: (1) CHESS, led by the University of Edinburgh, was submitted to Global Challenges Research Fund, UK, for £600,000 but was unsuccessful; (2) INESS on CHESS, led by the Secretariat, has been submitted as a letter of intent to EDCTP for €3,000,000. The outcome of INESS on CHESS will be communicated in December 2016. Three projects came to an end in 2016: INESS, OPTIMUNISE, and AWIGEN. All three made efforts to extend the duration of the project through proposal development. The proposal for INESS, led by the Secretariat, was approved for funding by the Gates Foundation for US\$1,182,415. A decision for the OPTIMUNISE (submitted to EDCTP) and AWIGEN (submitted to NIH) proposals will be communicated before the end of the year.

### **The Secretariat's efforts**

So far in the year, the Secretariat has contributed to 20 proposals. Four of the proposals submitted were led by the Secretariat; it contributed substantive knowledge to the remaining submissions.

### **Research Collaborations**

We continue to maintain existing and pursue new strategic partnerships. We have strengthened our ties with UK higher education institutions through new partnerships with the University of Southampton, University of Aberdeen, and Kings College. During the year, we developed five proposals with various Faculties at the University of Southampton, two of which were invited to the full proposal stage. We also developed two large proposals with Kings College which promised to extend the focus of scientific research within the network by exploring surgeries in low and middle income contexts. Further to the UK based institutions, we partnered with Potsdam Institute for Climate Impact Research in Germany for the NUTRI-SCOPE proposal and with Berner Fachhochschule in Switzerland to develop a proposal on data usage within communities.

### **Challenges**

The key challenge was allocating core funds to support a bigger need by working groups to meet and develop proposals and conduct research activities. This was in a way positive for the Network. The Secretariat will therefore continue to work hard to raise core support. However, working groups will continue to be supported to develop proposals for larger multi-centre projects.



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

#### **PEC Strategy**

The Secretariat started implementation of the new Policy Engagement and Communications (PEC) strategy for the Network. Priorities during the year included stakeholders mapping and more strategic use of the website and social media. The strategy which ensured better coordination of PEC activities has also been integrated into the (proposed) new INDEPTH Strategic Plan 2017-2021.

#### **External Engagements**

The Secretariat continued to perform well on interaction with stakeholders. INDEPTH representatives from Accra and from the member centres attended a few key international forums. These included the CRVS Core Group meeting held in Addis Ababa, Ethiopia, where participants were updated on the status of the Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics (APAI- CRVS) in French speaking and Northern African countries.

The PEC team participated in online discussions, one on evidence-informed country-level policy-making, which explored drivers and barriers to the uptake of evidence into policy and practice through the global initiative Healthcare Information For All (HIFA) initiative, supported by the WHO, TDR and The Lancet. The other was an interdisciplinary panel in a project (VERDAS) funded by WHO/TDR whose aim was to produce a series of comprehensive knowledge synthesis on urban health interventions for the prevention and control of vector-borne and other infectious diseases of poverty.

INDEPTH organised an In-Country Research to Policy meeting in Addis Ababa in September where 72 researchers, academicians, policymakers, public health and media practitioners gathered to discuss challenges and practical ways of bridging the gap between research and policy/practice within the health system in Ethiopia. Similar meetings were held in Ghana, India and Tanzania in 2014 and 2015.

#### **Website and social media**

The new INDEPTH website became operational at the beginning of the year and has been well received. The monthly average number of visitors doubled, from an average of 10,000 in 2015 to over 20,000 between January and

October, 2016. On social media, Staff and the Executive Director continued to be very active particularly on Twitter. The number of new INDEPTH Twitter Followers by September was about 60% of total number of Followers between 2011 and December 2015. Facebook visitor statistics were equally growing.

#### **Publications and newsletters**

The Network's member research centres collectively achieved more than 500 peer-reviewed publications in reputable international journals. The Secretariat's team was able to write 5 briefs from systematic reviews and 4 news briefs from meetings. Editorial articles on INDEPTH appeared in top journals – **Africa's demographic future: why Africa should take the lead** *Lancet Global Health* and **INDEPTH, one of the organizations that readily makes data available** – *Lancet Diabetes and Endocrinology*. The team produced and disseminated four quarterly electronic newsletters and over 43 weekly newsletters by end of October 2016.

#### **Media relations**

INDEPTH got good media coverage during the year. The PEC team effectively used media database for circulating press materials and for contacting journalists to cover workshops in Accra and elsewhere. They included radio, television, print journalists and bloggers. The

Secretariat working involving Centre Leaders produced press statements during major UN calendar events – Malaria Day, Worlds TB Day, World Environment Day and International Women's Day.

### **Challenges**

Many member research centres still do not have dedicated staff for communications. The

Secretariat however continued to promote the work of the member centres by capturing their information and publishing on the INDEPTH website, newsletters and social media. An average of 3-4 news items from Centres appeared in Friday newsletters, INDEPTH website and social media every week and also in quarterly newsletters.

In order to save costs, the Secretariat did not recruit any new staff for the section although this was proposed in the PEC strategy as a matter of priority. One member of the team also left for the UK for further studies.

# Capacity Strengthening and Training

## 1.0 Introduction to the Section

The Capacity Strengthening and Training Section identifies and creates opportunities as well as coordinates and facilitates key activities aimed at enhancing the capacities of member centres to contribute to cross-centre research. This is done mainly through the INDEPTH Scientific Development and Leadership Programme and other short term effort like training workshops (onsite and offsite).

The main focus for 2016 year included: Support to funded students to complete training; 'creating' and/or identifying more training opportunities (Masters and Doctoral) for members to benefit from, conducting plausibility checks on routine demographic indicators and micro datasets in preparation for update of INDEPTHStats and data repository; support interested members with the migration to electronic data capture using the OpenHDS platform. The Secretariat endeavoured to ensure that more centres came on board INDEPTHStats, Data Repository and OpenHDS as well as supporting the remaining member centres to prepare their respective HDSS profiles for publication in IJE. The team is also working closely with the Fertility and Sexual and Reproductive Health Working Group on the

analysis of adolescent fertility and developing evidence for advocacy. Other activities include support to ongoing efforts toward establishing an INDEPTH Training Centre.

The section is headed by Dr. Martin Bangha, assisted by Beatrice Afari-Yeboah with partial support from Francis Ameni.

## 1.1 Master's Training Programme at the University of the Witwatersrand

The four funded students of the second batch (2015-2016) of the Research Database Management (RDM) track successfully completed course work and are currently working on their research reports at their home institutions ready for submission and evaluation. They are Djibril Dione (Niakhar HDSS, Senegal), Kouliga Kombassere (Ouagadougou HDSS, Burkina Faso). Admas Abera Aberi (Kersa HDSS, Ethiopia) and Robert Adda from Kintampo HDSS in Ghana were able to complete the programme and graduate on time (Admas switched to the Population-Based Field Epidemiology track). This appears to indicate that the practical training component at home institution is having some challenges.

In September the INDEPTH Capacity Strengthening and Training Manager Dr. Martin

Bangha had an opportunity to meet the Masters' programme coordinators at Wits University to discuss training issues. Based on the discussions, coordinators have written to the students who are delaying to submit research reports.

Mieks F. Twumasi from Kintampo HDSS (Ghana) of the (2014/2015 batch) missed one of the course modules because of some family related challenges. There were plans for her to return to Wits, Johannesburg on 12-18 September to complete this module so as to fulfill the requirements for the training programme.

## 1.2 Doctoral (PhD) Training Support

Vijendra Ingole of Vadu HDSS who was partially supported by INDEPTH on the doctoral training programme in Epidemiology and Global Health at the Department of Public Health and Clinical Medicine at Umea University, has successfully completed and made the public defense of his dissertation entitled ***Too Hot!-Epidemiological investigation of weather-related mortality in rural India*** on 21 September 2016. The study investigates the effects of weather extremes on health in 22 rural villages east of Pune, in western India and found that people of working age had a higher risk of dying as a result of hot

weather than other population groups. During heat waves, deaths from non-infectious diseases such as asthma and cardiovascular diseases were more frequent than usual.

In the course of 2016, the Secretariat hosted George Wak of Navrongo HDSS, Ghana, who is also supported by INDEPTH on the doctoral training programme in Population Studies at the Regional Institute for Population Studies (RIPS), University of Ghana, Legon. The Secretariat also provides technical support for his dissertation and as scheduled, he will be completing the programme next year. His research focuses broadly on maternal migration and childhood survival. Partial support was also provided to Elizabeth Awini of Dodowa HDSS Ghana who is currently preparing her dissertation on **Patterns of all-cause and malaria-specific mortality** for the doctoral programme at the School of Public Health, University of Ghana, Legon.

### 1.3 Project-Specific Supported PhD Training

Under the OPTIMUNISE Project, an INDEPTH project on child health interventions, there are four supported PhD students (Paul Welaga of Navrongo (Ghana), Moubassira Kagone from Nouna (Burkina Faso), Martin Mutua from Nairobi (Kenya) and Syed Hanifi of Chakaria (Bangladesh). In course of the 2016, they have progressed well with their dissertations. Three of these PhDs are approaching completion

(Nairobi, Navrongo and Nouna). Since their training is built into the OPTIMUNISE Project, they have all been fully involved and contributing to the real life assessment of the health interventions considered under this project. As such their dissertations are focused on using HDSS data from their respective HDSS centres to examine the effects of immunization status on child survival, including the non-specific effects of certain vaccines (measles, BCG, OPV, DTP, etc).

An INDEPTH project that focuses on the development of innovative methods to improve estimates of out-of-pocket payments for health services in low and middle-income countries (iHOPE) was implemented by member centres in Ghana, Burkina Faso and Vietnam. The project also sponsors two PhD students. The PhD studentship tenable at Swiss TPH/ University of Basel in Basel, Switzerland was advertised, and two students selected (Isaiah Igorinya from Navrongo HDSS (Ghana) and Le My Lan from FilaBavi HDSS (Vietnam). The two students joined the Swiss TPH in September to start course work. Since their PhD training is built into the iHOPE Project, they are expected to develop their research topics within the framework of the project “Household Out-of-Pocket Health Expenditures Tracking for Disease Specific Health Account and Universal Health

Coverage Measure: Developing and testing Household OOP Estimation Methodology”. As such, each of the students will tackle an aspect of the project using the data to be collected under iHOPE.

### 1.4 Member HDSS Cohort Profiles in IJE

INDEPTH and the *International Journal of Epidemiology* (IJE) agreed in a collaboration to showcase the wealth of data collected and the amount of work going on at the various INDEPTH member HDSSs and make them more visible; and also to generate interest in and enhance the usefulness of HDSS data. The INDEPTH-IJE collaborative agreement is to support and publish cohort profiles of all INDEPTH member HDSSs. In keeping with this agreement, the Secretariat (in collaboration with the IJE) has been organising Profile Writing workshops in Accra to help members develop their profiles for publication. Two of such workshops have been organised, first in November 2012 and the second in April 2014. Aside from the workshops, the Secretariat in collaboration with the IJE editors continue to work with remaining member centres to ensure that all have their profiles for consideration and publication in IJE. In all 32 HDSS profiles have been published to date in the IJE.

In the course of 2016, two HDSS profiles were published. These are:

- Branwen J. Hennig, Stefan A. Unger, Bai Lamin Dondeh, Jahid Hassan, Sophie Hawkesworth, Landing Jarjou, Kerry S. Jones, Sophie E. Moore, Helen M. Nabwera, Mohammed Ngum, Ann Prentice, Bakary Sonko, Andrew M. Prentice, and Anthony J. Fulford **Cohort Profile: The Kiang West Longitudinal Population Study (KWLPS)—a platform for integrated research and health care provision in rural Gambia** *Int. J. Epidemiol.* first published online November 11, 2015 doi:10.1093/ije/dyv206 (12 pages)
- Tobias Homan, Aurelio di Pasquale, Kelvin Onoka, Ibrahim Kiche, Alexandra Hiscox, Collins Mweresa, Wolfgang R. Mukabana, Daniel Masiga, Willem Takken, and Nicolas Maire **Profile: The Rusinga Health and Demographic Surveillance System, Western Kenya** *Int. J. Epidemiol.* first published online May 16, 2016 doi:10.1093/ije/dyw072 (10 pages)

The profile of Matlab HDSS in Bangladesh has gone through internal review and revision and has been submitted IJE for final review and approval for publication. First drafts for Cross River and Gilgel Gibe HDSSs have been reviewed as well. Apart from the Dodalab, Kilite and Rakai

HDSS profiles which are still pending from the April 2014 workshop, all profiles examined at previous INDEPTH IJE profile writing workshops have been published. Thanks to this level of success and the resultant visibility from these profiles, INDEPTH is always featuring in the IJE's annual reports.

### **1.5 Improving Cause-of-Death Statistics in Health Facilities**

The development and implementation of the District Health Information System (DHIS2) in many LMICs provides a suitable platform to facilitate data capture, coding and analysis and contribute to obtaining real-time data on causes of death. The DHIS 2 is free open source software that has been adopted as the preferred health management information system in 47 countries (including Ghana). However, the recording of causes of death has not been uniform and in some instances seems to be non-compliant with the standard rules. To remedy to this situation, WHO has developed a new module to capture cause-of-death information that is compliant to international standards.

In this regard, WHO organised a two-day workshop in Accra from April 21-22 targeting mainly Ghanaian participants. The focus of the workshop was to train participants on implementing the new cause of death module

in DHIS 2. In view of INDEPTH role and partnership in improving mortality statistics globally, we were invited to participate. INDEPTH sponsored three representatives from Navrongo, Dodowa and Kintampo HDSSs. It is hoped that the three will assume the role of trainers of the Network on this important topic especially in view of current plans to link community based surveillance to health facility data in the respective HDSSs.

### **1.6 ANACONDA Training**

ANACONDA is a SwissTPH developed tool for assessing the quality of cause of death data for Civil Registration and Vital Statistics (CRVS) systems under the Bloomberg Data for Health Initiative. A data training workshop and handing over of this tool to Ghana Health Service (GHS) was held on July 11 2016 in Accra. Two representatives from each of the Ghana HDSSs attended this training (along with Dr Martin Bangha representing the Secretariat). It was a hands-on workshop where each centre was able to process one year of their data as part of the training. This tool works equally well on HDSS data as was learned during the training and all INDEPTH members in Ghana who participated at the training and had access to it.

### 1.7 Plans for Construction of INDEPTH Training Centre



Front elevation of the proposed INDEPTH Training Centre.

A feasibility study report on the construction of an INDEPTH Training Centre was presented by KPMG to the Board during the March 2016 meeting in Accra. This contained a macro-economic review, an industry analysis, a market survey analysis, a project and financial analysis along with an investment appraisal. The total cost of the project was estimated at US\$ 2.2 million. Employing two different investment appraisal methods: the Net Present Value (NPV) and the Internal Rate of Return (IRR), the appraisal results generally provided evidence of a positive NPV implying that the project is worth undertaking. Moreover, the expected revenue from renting out the facility presents the opportunity to pay off loan facilities applied

towards the construction within a short period of time (generally less than 10 years). After thorough review, the project was supported by the Board. The Secretariat was tasked to proceed with fundraising for the project. The Board, however, instructed that the project must be financed exclusively either by internally generated funds or funds meant specifically for the construction.

### 1.8 Data-Driven Development in Africa

Pennsylvania State University Programme on African Studies hosted the 2016 Conference on Data-Driven Development in Africa in February 2016. INDEPTH Capacity Strengthening and Training Manager, Dr. Martin Bangha, attended the two-day conference in the US and

participated in a panel discussion together with Prof. Gregory Jenkins from the Department of Meteorology, Penn State University; Prof. Parfait Eloundou-Enyegue (Sociology), Cornell University; Prof. Brian Min (Political Science), University of Michigan and Dr. Jarrod Goentzel from MIT Humanitarian Response Lab.

### 1.9 Improving Cause-of-Death Statistics in Health Facilities

The development and implementation of the District Health Information System (DHIS2) in many LMICs provides a suitable platform to facilitate data capture, coding and analysis and contribute to obtaining real-time data on causes of death. The DHIS 2 is free open source software that has been adopted as the preferred health management information system in 47 countries (including Ghana). However, the recording of causes of death has not been uniform and in some instances seems to be non-compliant with the standard rules. To remedy to this situation, WHO has developed a new module to capture cause-of-death information that is compliant to international standards.

In this regard, WHO organised a two-day workshop in Accra from 21-22 April 2016 targeting mainly Ghanaian participants. The focus of the workshop was to train participants on implementing the new cause of death module in DHIS 2. In view of INDEPTH role and partnership in improving mortality statistics

globally, INDEPTH were invited to participate. INDEPTH sponsored 3 representatives from Navrongo, Dodowa and Kintampo HDSSs in the understanding that the three will assume the role of trainers of the Network on this important topic especially in view of current plans to link community based surveillance to health facility data in the respective HDSSs.

#### **1.10 CARTA Partners Forum**

Dr. Martin Bangha attended the Consortium of Advanced Research Training (CARTA) Partners Annual Forum (PaF) at Moi University in Eldoret, Kenya, from 19-22 September 2016.

Participants were from nine partner universities in Africa. Dr. Bangha made a presentation on how INDEPTH helps to secure the future of PhD graduates by developing them into research leaders.

#### **1.11 iSHARE 2 and OpenHDS training workshops held in Pune and Dubai**

The INDEPTH Data Management Programme (IDMP) - iSHARE2 Training Workshop 6 took place in Pune, India, from 19 – 26 July 2016 to prepare iSHARE2 member sites to use Centre-in-a-Box (CiB) research data management appliance to extract, quality assure, document, share and analyse the INDEPTH Core Micro Dataset. Participants came from Chakaria and Bandarban HDSSs (Bangladesh), Nahuche HDSS from Nigeria and Birbhum HDSS from India.



***iSHARE workshop participants at the Royal Orchid Hotel, Kalyani Nagar, Pune, India.***

The Pune training was preceded a similar one in Dubai, UAE, from 9 – 22 May 2016. In all 31 participants including seven Centre Leaders took part in this training programme. The Dubai workshop also provided the opportunity for the data on the INDEPTH Data Repository to be upgraded with new datasets on 1 July 2016.

Both the Pune and Dubai training programmes provided the participants detailed knowledge for maintaining and working with the different components of CiB which would be useful for them to manage the entire life-cycle of research data management at their respective HDSSs. Participants had a hands-on practice and customised configuration of the CiB components and took the server to their

respective sites for implementation.

The OpenHDS training was also held alongside the iSHARE meeting from 15 – 21 May 2016 in Dubai. The one-week training provided the opportunity for representatives from Nouna HDSS in Burkina Faso; Navrongo HDSS (Ghana); Chokwe HDSS (Mozambique); Agincourt HDSS (South Africa) and Iganga Mayuge HDSS in Uganda to acquire knowledge on OpenHDS setup and its implementation. OpenHDS is an open source platform for electronic data collection.

Currently four INDEPTH members are using this platform for capturing data. The platform provides the best alternative for HDSSs who use

the HRS2 platform with paper for capturing data. The OpenHDS is a modern and improved version of the HRS2 platform. The incorporation of a tablet for data collection makes it preferable hence the need to encourage more HDSSs to switch to the OpenHDS platform.

The facilitators for the iSHARE 2 were Dr. Kobus Herbst, iSHARE2 Principal Investigator; Dr. Sanjay Juvekar, iSHARE2 Co Principal Investigator; Prof Tathagata Bhattacharjee, Senior Data Manager; Brendan Gilbert, Systems Administrator and Sandeep Bhujbal, Data Manager; while Dr. Nicolas Maire and Aurelio Di Pasquale took participants through the OpenHDS training. INDEPTH General Projects and Information Systems Manager Titus Tei and Senior IT Officer Francis Ameni also participated.

### **1.12 Updates of INDEPTH Data Repository and INDEPTHStats**

Following the plausibility review of relevant indicators, the update of INDEPTHStats and INDEPTH Data Repository on July 1, 2016 was effectively accomplished. This brings the coverage of datasets reflected in INDEPTHStats to 26 member research centres in Africa and Asia, which include **32** HDSS field sites. On the other hand, the July 1<sup>st</sup>, 2016 update of the data repository brought the coverage datasets to 25 member health research centres in Africa and Asia, which include **27** HDSS field sites. Moreover, at the completion of the July 1<sup>st</sup>,

update, the INDEPTH Data Repository had data on over 1.6 million individuals and more than 25 million person-years of observation representing the first harmonised database of longitudinal population-based data from LMICs (for a total of 66 published datasets since inception in July 2013). The July 1<sup>st</sup> update also included the MADIMAH project, a Multi-centre Analysis of the Dynamics of Internal Migration and Human Capital in six INDEPTH centres in sub-Saharan Africa.

The INDEPTH Data Repository ([www.indepth-ishare.org](http://www.indepth-ishare.org)) is an online archive of fully documented high-quality longitudinal datasets from INDEPTH member HDSS centres. It is the first repository that specialises in longitudinal population-based data from LMICs. INDEPTHStats ([www.indepth-ishare.org/indepthstats](http://www.indepth-ishare.org/indepthstats)) is the corresponding data visualisation website that contains summary statistics, images and graphs of key health and demographic indicators generated from the respective INDEPTH member HDSS centres. INDEPTHStats 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.

Meanwhile, as part of our effort to showcase and sensitise the larger scientific community and global public health actors on the unique data achievement, a data news article on INDEPTH Data Repository and INDEPTHStats was published in the summer edition of PAA Affairs ([http://www.populationassociation.org/wp-content/uploads/PAA-Summer-2016-1.pdf?utm\\_source=PAA+Affairs+-+Summer+2016&utm\\_campaign=paa-affairs-summer-2016&utm](http://www.populationassociation.org/wp-content/uploads/PAA-Summer-2016-1.pdf?utm_source=PAA+Affairs+-+Summer+2016&utm_campaign=paa-affairs-summer-2016&utm)).

After the July 1 public release, INDEPTH received indicator templates from 7 HDSSs that were unable to come through with plausible indicators before July 1 (these include Dabat, Kilifi, Kisumu, Manhica and Niakhar). In addition, INDEPTH received indicators and data quality matrix to review for the four HDSSs that participated in the iSHARE workshop in Pune, India (namely Bandarban, Birbhum, Chakaria and Nahuche). After a careful review, all except Chakaria seems to have serious issues.

### **1.13 Meeting on Social Innovation in Health Care Delivery**

Social innovation is increasingly recognised as one of the real opportunities (often inexpensive way) to resolve health care delivery gaps. As a follow up to a WHO consultation meeting in 2015, on 23 & 24 November 2016, SIHI and the ESSENCE on Health Research Initiative co-hosted a participatory meeting Annecy, France to explore the role funding agencies could play



in supporting and promoting research in community based social innovation. Attended by some 21 participants from funding agencies, international organisations, universities and social innovation organisations (including INDEPTH represented by Dr. Martin Bangha) the meeting effectively explored three key areas for further action and investment in social innovation namely: advancing methods and theory for research, platforms for learning and sharing, advocacy and influence for social innovation.

#### **1.14 INDEPTH-TDR Collaboration in Health Systems Implementation Research**

As a follow up to earlier plans for a collaboration between WHO/TDR and INDEPTH in the area of building expertise in implementation research (IR) across interested INDEPTH member centres, a meeting was held on 24 November 2016 at the TDR headquarters in Geneva, Switzerland in which Dr. Martin Bangha, the Capacity Strengthening and Training Manager represented the Network. The main idea of this collaboration was to strengthen capacity for identifying and addressing country-specific health system needs for effective access and delivery of new health interventions and technologies. More specifically, this will build capacity for engaging appropriate stakeholders in order to identify critical gaps to be addressed within the health programme / system. This meeting allowed for clarification on outstanding issues and agreement on the way

forward. It was agreed to convene a planning meeting to develop a joint application to source funding for an INDEPTH-TDR capacity building project. The meeting is currently being planned for March 7-9, 2017 in Hanoi, Vietnam. The meeting agenda will include an orientation on the IR process, the tools available and developing of a proposal on bringing teams together to priorities and select a program implementation problem that needs to be addressed

## **The Scientific Research and Co-ordination**

### **2.0 Introduction to the Section**

The Scientific Research and Co-ordination (SRC) Section of the INDEPTH Secretariat is tasked with managing, facilitating and co-ordinating scientific research activities within the Network. INDEPTH employs Working Groups, Interest Groups and Strategic Groups to lead the exploration of topical research areas. In 2016, there were 11 active Working Groups. Four of these groups had ongoing projects: (1) the iHOPE project as part of the Health Systems Working Group (funded by the Gates Foundation for \$2,250,080 between 2016 and 2018); (2) the OPTIMUNISE project which is implemented by the Vaccination Working Group (funded by the EU between 2011 and 2016 at a cost of €2,999,970); (3) the Cause of Death Determination (CoDD) using Inter VA-4 project which is undertaken by the CoDD

Working Group and; (4) the Navrongo Newborn study undertaken as part of the Maternal and Child Health (MNCH). CoDD and the Navrongo study are both funded by INDEPTH Core Support. Two Working Groups started new projects having been successful in securing funds in 2015. The Antibiotics Resistance WG began the 'ABACUS' project (funded by the Wellcome Trust for €799,828 (\$880,202) for three years). The MNCH WG also had the inception for the project 'Every Newborn Measurement Improvement Plan for Maternal and Peri-natal Health Metrics (ENAP)' in 2016 (funded by the Children's Investment Fund Foundation for £802,079 (\$1,132,371) over five years). With new partners – Vienna Institute of Demography (Austria) and University of Newcastle (Australia) – the Education WG developed a 3-year proposal for the Economic Social Research Council UK costing £689,612 (\$858,832).

Six Interest Groups were active in 2016. All groups were keen to raise funds but only one could find appropriate calls to submit a proposal. The Nutrition Group contributed to writing two proposals.

The Data Analysis Strategic Group had a proposal development workshop to draft a concept note for the Wellcome Trust Enhancement Grant. The team succeeded in drafting and submitting a concept note – “Assessing the Epi-demographic Transitions in

Africa and Asia from Established Population-based Surveillance” – for \$100,000 over 6 months. In January 2016, the Wellcome Trust invited the group to submit a full proposal which unfortunately was unsuccessful.

There were 10 ongoing network projects in 2016: CHES, iHOPE, INESS, Social Autopsy, AWIGEN, Navrongo Newborn study, OPTIMUNISE, CoDD, ABACUS and ENAP including those indicated above in the Working Group section. Two large projects (ABACUS and ENAP, see above) and one pilot (CHES – Comprehensive Health and Epidemiological Surveillance System) started in 2016.

## 2.1 Network Projects

### 2.1.1 Comprehensive Health and Epidemiological Surveillance System (CHES)

CHES is an INDEPTH's new generation of population surveillance operations capable of timely delivery of high-quality data for disease-specific and pathogen-specific morbidity, together with data for overall and cause-specific mortality.

In addition to disease causes and morbidities, CHES will include full risk factor surveillance and address the full range of the rapidly transitioning burden of disease, including non-

communicable diseases and external causes and their associated morbidities. Importantly, CHES will include monitoring health systems and policy initiatives because they affect communities and households.

By the beginning of the year INDEPTH signed an agreement with Sida for an amount of USD480,000 as part of existing core support, to pilot the CHES. A questionnaire was sent out on whether an HDSSs was on INDEPTHStats, iSHARE2, OpenHDS; on tools for data collection and the number of update rounds. Twenty four HDSSs completed and returned the questionnaire. Using a set of indicators proposed by the SAC at the INDEPTH Scientific Conference (ISC 2015), the applications from these centres were reviewed and weighted. Five HDSSs Kersa (Ethiopia), Navrongo (Ghana); Nanoro (Burkina Faso); Rufiji (Tanzania) and Filabavi (Vietnam) were selected to implement *the project*.

#### 2.1.1.1 CHES Inception Meeting

An Inception meeting for the project was convened from 9-11 May 2016 in Ho, Ghana. The meeting was able to communicate the objectives of the CHES programme, reflect on pathways to data linkage, decide on a basket of diseases, and identify budget guidelines and implementation timelines as well as confirm two of the four sites as the phase I for CHES.

| Working Groups   | Interest Groups   | Strategic Groups   |
|--|---|--|
| <ol style="list-style-type: none"> <li>1. Health Systems</li> <li>2. Antibiotic Resistance</li> <li>3. Maternal Newborn and Child Health</li> <li>4. Sexual and Reproductive Health</li> <li>5. Vaccination and Child Health</li> <li>6. Migration, Urbanisation and Health</li> <li>7. Cause of Death Determination</li> <li>8. Adult Health and Aging</li> <li>9. Education</li> <li>10. Social Science Research</li> <li>11. Environment and Health Mortality Analysis</li> </ol> | <ol style="list-style-type: none"> <li>1. Indoor Air Pollution</li> <li>2. Sickle Cell</li> <li>3. Nutrition</li> <li>4. Mental Health</li> <li>5. HIV/AIDS</li> <li>6. Malaria/non-malaria fevers illness</li> </ol> | <ol style="list-style-type: none"> <li>1. Capacity Strengthening and Training</li> <li>2. Data Analysis and Cause of Death</li> <li>3. Research to Policy Group</li> <li>4. INDEPTH Data Management Programme</li> </ol> |

Table 1: Names of Working Groups, Interest Groups, and Strategic Groups

After two days of presentations, discussions and engaging with the sites, it was decided that Kersa (Ethiopia) and Nanoro (Burkina Faso) HDSSs should be included in phase I of the CHES while Navrongo (Ghana) and Vadu (India), would be part of phase II. Vadu replaced Filabavi because of some technical reasons. The decision was based on two considerations:

- (1) whether the site had already adopted electronic data capture and was on OpenHDS; and
- (2) the ability to link data from the health facility and HDSS through biometric registration and other forms of identification.

The basket of diseases from each site was confirmed: Kersa – diarrhoea, pneumonia, TB, HIV, malaria; Nanoro – malaria (RDT/Microscopy), HIV (RDT), TB, Meningitis, Measles, and Dengue tentatively. Participants included Prof. Fred Binka (former Vice-Chancellor of University of Health and Allied Sciences) who facilitated the workshop; Prof Peter Byass (SAC Chair), centre leaders, scientists, data managers and medical doctors from four HDSSs (Nanoro, Navrongo, Kersa and Vadu) and members from the Secretariat including the Executive Director, Prof. Osman Sankoh. In all, 33 participants attended the CHES workshop.

### **2.1.1.2 Nanoro CHES Pilot Preparations in Top Gear**

A team from INDEPTH Secretariat in Ghana and a software developing firm were at the Nanoro Health and Demographic Surveillance System site (HDSS) in Burkina Faso from 14 -24 September 2016 to support the ground team in preparations for piloting of the Comprehensive Health and Epidemiological Surveillance System (CHES).

The site has completed enrolment of their HDSS population using OpenHDS and is currently enrolling the communities into a biometric registration system. The biometric indicators will provide a unique identifier for the HDSS data and the Health facility data for linkage. Two health facilities have been set up for the CHES pilot and the health workers are being trained on the system though with some challenges which are being addressed. Lessons are being learnt as the team prepares to move to the second pilot site to deploy the system.

### **2.1.2 iHOPE Project**

The project under the Health Systems Working Group works on improving estimation of Out-Of-Pocket expenditure (OOP) in a household survey and develops a set of questions to facilitate OOP specific disease measurement. The US\$2.3m INDEPTH project funded by Gates Foundation is undertaken by Ouagadougou

HDSS (Burkina Faso), Navrongo HDSS (Ghana) and Filabavi HDSS in Vietnam. The project successfully submitted its first annual progress report to the funder on 31 March 2016.

The project has also obtained ethics clearance for two (Navrongo and Filabavi) of the three implementing sites. Ouagadougou HDSS in Burkina Faso which is the third implementing site has just submitted the draft protocol for funding. Gates Foundation has directed that the project submits a revised protocol and all instruments to the Scientific Advisory Group (SAG) of the project for their further review and approval before the commencement of training and data collection. The project is currently working on this. Summary of activities of the iHOPE Project is shown in tables 1 and 2.

### 2.1.2.1 iHOPE project team discuss instruments

A pre-pilot test and data collection meeting for the INDEPTH Health Out-of-Pocket Expenditure (iHOPE) project was held from 24-28 October 2016 at the Navrongo Health Research Centre (NHRC) in Ghana. The meeting aimed at discussing country specific instruments for measuring household out-of-pocket health payments (OOPs). The 14 participants came from INDEPTH member centres of Navrongo (Ghana), Ouagadougou (Burkina Faso), Kersa (Ethiopia) and Filabavi (Vietnam), while resource persons were from the WHO, INDEPTH and the University of Ghana School of Public Health lead discussions. iHOPE is funded by the Gates Foundation. The iHOPE project is being conducted in Ghana, Burkina Faso, Ethiopia and Vietnam.



*iHOPE team during the Navrongo workshop.*

### 2.1.3 Every Newborn Action Plan (ENAP) Project

The Maternal and Newborn Working Group (MNWG) became a working group in the INDEPTH Network in 2012. The main goal for its formation was to support the coordinated multi-site, multi-country generation of evidence to inform policy and programs, specifically focusing on maternal and newborn health and survival in low income countries. Currently, there are 32 member sites that subscribe to the group. However, because the INDEPTH Network requires all member centres to monitor pregnancy and births, all sites are potentially members of the group.

Together with the London School of Hygiene and Tropical Medicine (LSHTM), the MNWG is conducting research to improve metrics around the time of pregnancy and birth, including improvement of household survey, capture of stillbirths and neonatal deaths, birth weight and gestational age and optimising the data capture of pregnancy outcomes across five health and demographic surveillance sites. This is under the ENAP metrics work.

The Every Newborn Action Plan (ENAP) is a

global multi-partner movement to end preventable maternal and newborn deaths and stillbirths. Through a series of consultations, multiple stakeholders (governments, UN agencies, donors, business communities, professional associations, academic and research institutions, global initiatives and civil society members) developed an impact framework and an action and measurement agenda for integration within national newborn health plans. ENAP prioritises achieving universal coverage of these interventions particularly during childbirth and the first week of life. Yet many of these interventions are not systematically measured. One of the five ENAP strategic objectives is to count every newborn.

In early 2016 the Secretariat received 14 applications from the network for the validation of the every new born action plan metric in low-and-middle income countries. The applications were reviewed with the review process being led by LSHTM and the MNWG Technical Office at the Makerere University in Kampala, Uganda. Five HDSSs were selected for the study: Matlab (Bangladeshi), Bandim (Guinea Bissau), Kintampo (Ghana), Dabat (Ethiopia) and Iganga-Mayuge (Uganda).

A webinar was organised on the 3 March 2016 that included the various parties to the project including representatives of the five HDSSs selected to implement the project. The meeting discussed the technical (what the project entails, timelines, design workshop to be held in Kampala) and operational (contract between LSHTM and INDEPTH, and between INDEPTH and the HDSS sites) as well as other issues related to the project. The project is funded by Children Investment Fund Foundation (CIFF) through LSHTM with an amount of £802,079.

### 2.1.3.1 Kampala Design and Technical Workshop

The ENAP Project (2016-2018) held their design and technical workshop in Kampala, Uganda, from 15-17 June 2016. The meeting reviewed the objectives of the project and refined a generic protocol in order to meet the revised objectives. Twenty seven participants attended. These included representatives from five HDSSs Matlab, Bandim, Kintampo, Dabat and Iganga-Mayuge; project partners LSHT and Makerere University and (CIFF), funders of the project. Among the five INDEPTH Centre participants, two were Centre Leaders: Dr. Gashaw Bikes (Dabat) and Dr. Dan Dajungu (Iganga-Mayuge). Prof Joy Law represented L S H T M , a c c o m p a n i e d b y f o u r s e n i o r r e s e a r c h e r s . O t h e r s i n c l u d e d t h e W o r k i n g G r o u p L e a d e r a n d P I o f t h e E N A P p r o j e c t , P r o f . P e t e r W a i s w a , M a k e r e r e U n i v e r s i t y ' s P r o f . F r e d d i e S s e n g o o b a a n d S u z a n n e F o u r n i e r a n d L y N g u y e n f r o m C I F F . T h e s u m m a r y o f a c t i v i t i e s f o r t h e M a t e r n a l , C h i l d a n d N e w b o r n H e a l t h i s s h o w n i n t a b l e s 4 , 5 , 6 a n d 7 .



*Group photo during the Kampala ENAP Design and Technical Workshop.*

#### 2.1.4 OPTIMUNISE Project

Child health interventions, particularly vaccines, have been widely disseminated without any prior studies of their overall effect on mortality and morbidity. It has been assumed that if a vaccine prevented a given disease, then the mortality effect could be calculated from the number of deaths due to the disease. However, accumulating evidence suggest that health interventions also have non-specific effects in addition to the specific effects. It is on this background that an INDEPTH Vaccination and Child Health Working Group Project – OPTIMUNISE - aimed to test the real life effect on overall child health of many of the widely used health interventions was introduced.

OPTIMUNISE took advantage of the Health and Demographic Surveillance System (HDSS) sites in the INDEPTH Network and was implemented at three INDEPTH sites in Guinea-Bissau (Bandim Health Project), Burkina Faso (Nouna), and Ghana (Navrongo). These sites created a platform for assessing the overall mortality effect of the major child health interventions vaccines and vitamin A supplementation. The project was initiated in March 2011 and has lasted five years. The project coordinator was Professor Peter Aaby from the Bandim Health Project.

The project was created with a grant from the EU 7<sup>th</sup> Framework programme. OPTIMUNISE

built on a vaccine network within INDEPTH, which was funded by the Danish development agency DANIDA. Other foundations have funded part of the work, including the Danish National Research Foundation, which funds the Research Centre for Vitamins and Vaccines (includes the Bandim Health Project) and Novo Nordisk Foundation, through a Prof. Aaby. The budget of the project was €2.999.970 from the EU.

By the close of the year, more than 46 peer reviewed papers have been produced since the beginning of OPTIMUNISE and another 26 were in preparation. Two PhD students from Burkina Faso and Ghana and one post-doc from Guinea-Bissau have been trained in the real life assessment of health interventions as part of the OPTIMUNISE Project.

##### 2.1.4.1 OPTIMUNISE Stakeholders Conference Held in Accra

A two-day OPTIMUNISE Project stakeholders conference was held in Accra on 26 -27 August 2016. The event saw researchers presenting the results of the work on the evaluation of health interventions done by the EU Consortium OPTIMUNISE. OPTIMUNISE stands for “Optimising the impact and cost-effectiveness of existing child health intervention programmes for vaccines and micronutrients in low-income countries”. In his opening presentation, Prof. Sankoh thanked funders, partners and participating INDEPTH centres for what they had achieved in the study that has lasted five years while the project PI Prof. Peter Aaby, gave an overview of the project. Participants included policymakers, researchers, health practitioners, partners and funders.



*OPTIMUNISE stakeholders during the Accra conference.*

#### 2.1.4.2 Summary of Results

The OPTIMUNISE Project has shown that the effect of health interventions cannot merely be calculated based on their specific effects. Health interventions have also important non-specific effects, and it is necessary to assess their effects in real life. For instance:

- BCG vaccine strengthens the immune system and reduces mortality much more than can be ascribed to prevention of tuberculosis. Bringing down the age of BCG vaccination was associated with very important reductions in early life mortality in Guinea-Bissau and Ghana.
- Measles vaccine reduces mortality more than can be explained by prevention of measles infection. Studies from Guinea-Bissau and Burkina Faso showed that measles vaccine can be given much earlier in life than currently assumed and still be preventive against measles infection. There are conflicting results with regard to whether a policy of providing early measles vaccine would reduce overall mortality. It is important that measles vaccine is not followed by DTP vaccine, as often happens, as mortality then increases.
- Campaigns with measles vaccine and Oral Polio Vaccine campaigns seem to

have been instrumental in bringing down under-five-mortality in both Guinea-Bissau and Ghana.

- In contrast to the beneficial effects on overall mortality by the live vaccines BCG, measles vaccine and oral polio vaccine, the non-live vaccines DTP, pentavalent vaccine and the recently approved RTS,S malaria vaccine appears to be associated with slightly higher mortality even though it offers protection against the target diseases. These negative effects are significantly worse for girls than for boys.

Routine intervention programmes for children in LMIC therefore need to be assessed not only for the intended effect but also for the real-life effects. OPTIMUNISE furthermore emphasises that it is necessary to assess: the effect of removing a live vaccine with beneficial effects; the overall effects of non-live vaccines; whether effects are similar for girls and boys; and whether the intervention interacts with other interventions.

#### 2.1.4.3 Future Plans

OPTIMUNISE has gone a long way to document the non-specific effects of health interventions and the need to assess them in real life. However, much work remains to be done to optimize the child health intervention programmes. Currently, with the approaching

eradication of measles and polio infections, there is a likelihood of a downscaling of the live measles vaccine and oral polio vaccine. Given the beneficial non-specific effect of these vaccines described above, this may prove harmful. At the same time more and more non-live vaccines are being introduced: inactivated polio vaccine (IPV) instead of OPV. A new non-live malaria vaccine will soon be tested in older children, and many groups strive to develop non-live tuberculosis vaccines. WHO plans to introduce more non-live vaccines in the “second-year-of-life-platform” and this means that these vaccines will be given after measles vaccine. Research done by OPTIMUNISE indicated that all the above changes may paradoxically increase child mortality. Thus, there is an urgent need to continue to develop the INDEPTH platforms for further assessment of health interventions and their interactions in real life to prevent global health problems.

#### 2.1.5 ABACUS Project

Resistance to commonly used and affordable antibiotics for common bacterial infections is a major health threat for the 21st century. The problem is particularly pressing in low- and middle-income countries (LMICs) due to the high infectious disease burden, erratic access to antibiotics and poor community surveillance programmes. Antibiotic resistance (AR) is a major current health threat.



ABACUS, a project by INDEPTH Antibiotics Resistance Working Group uses a combination of quantitative and qualitative approaches to systematically investigate understandings about, and use of antibiotics, as well as related health-seeking behaviour and the wider context that affects the behaviours. The project is funded by the Wellcome Trust for €799,828 (\$903,085.79) between 2016 and 2018. The ABACUS Project assesses and compares community-based antibiotic access, consumption and the factors that underpin them in six countries in Africa, and Asia, through the standardised sampling frame provided by the INDEPTH Network.

### 2.1.5.1 Dodowa Training Workshop and Bangkok Meeting

On 24-26 May 2016 a training workshop aimed at piloting the research instruments and implementation of the INDEPTH ABACUS Project held in Dodowa, Ghana. The workshop was hosted by Prof. Margaret Gyapong who heads the INDEPTH Social Science Working Group and is also the head of the Dodowa Health Research Centre. The meeting was attended by 13 participants from Africa Centre (South Africa), Bandarban HDSS (India),

Dodowa HDSS (Ghana), Manhica HDSS (Mozambique), and Kintampo HDSS (Ghana). The Executive Director of INDEPTH, Prof. Osman Sankoh, Prof. John Kinsman (Umea University, Sweden) and Dr. Johannes John-Langba (University of Cape Town, South Africa) participated. Before the Dodowa workshop, the ABACUS project team met for a kick off meeting in Bangkok, Thailand, from the 27-28 January, 2016 and were hosted by Institute for Population and Social Research, Mahidol University. The summary of activities of ABACUS Project is in table 7.



*ABACUS team in Bangkok, Thailand.*

### 2.1.6 AWI-Gen Project

Led by Prof. Michele Ramsay (Wits University) and Prof. Osman Sankoh from INDEPTH Secretariat, AWI-Gen is a Wits-INDEPTH Collaborative Centre under the umbrella of Investigators for the Human Heredity and Health in Africa (H3Africa) Consortium. It aims to study genetic and environmental contributions to susceptibility to cardio-metabolic diseases in four African countries.

The project is collecting 2000 DNA samples (equivalent numbers of males and females; aged 40-60 years), following informed consent, from each of six sites, two each in 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. The Collaborative Center will bring together a powerful team of researchers on the African continent to address three broad themes:

- a. Capacity development to enhance capability for genomic research in Africa to address critical problems of health and disease;
- b. Understanding the genomic architecture of sub-Saharan African

populations and its impact on disease susceptibility; and

- c. To identify genetic, genomic and environmental risk factors for obesity by leveraging on existing longitudinal cohorts and adding a genomic dimension to the research.

The \$5,201,509 project is funded by the National Institutes of Health (NIH), United States of America, for duration of August 2012 to July 2017. Summary of activities for Social Autopsy Project is in table 10.

### Key Publications

1. **Xavier Gómez-Olivé et al, as members of AWI-Gen and the H3Africa Consortium (2017). Stark Regional and Sex Differences in the Prevalence and Awareness of Hypertension: An H3Africa AWI-Gen Study Across 6 Sites in Sub-Saharan Africa. Global Heart. <http://dx.doi.org/10.1016/j.gheart.2017.01.007>**
2. **Michele Ramsay and Osman Sankoh; as members of the AWI-Gen study and the H3Africa Consortium (2015). African partnerships through the H3Africa Consortium bring a genomic dimension to longitudinal population studies on the continent. International Journal of Epidemiology. 1–4 doi: 10.1093/ije/dyv187**
3. **H3Africa Consortium, (2014). Enabling Genomic Revolution in Africa. Science. VOL 344 ISSUE 6190. 1346-1347. DOI: 10.1126/science.1251546**
4. **Ramsay M, de Vries J, Soodyall H, Norris A S, Sankoh O (2014). Ethical issues in genomic research on the African continent: experiences and challenges to ethics review committees. Human Genomics, 8:15. doi:10.1186/s40246-014-0015-x**

## 2.2 Working Groups

### 2.2.1 Education Working Group

The Education Working Group was re-launched in March 2015 in Accra with 13 centres: Nairobi, Kenya; Farafenni, The Gambia; Nouna, Burkina Faso; Kintampo, Ghana; Navrongo, Ghana;

Dodowa, Ghana; Iganga/Mayuge, Uganda; Rufiji, Tanzania; Ifakara, Tanzania; Birbhum, India and Karonga, Malawi. Dr. Moses Ngware from Nairobi HDSS is the group leader. Dr. Mamusu Kamanda anchors the group from the Secretariat in Accra.

A systematic review paper was published in 2016. The group wrote one proposal in 2016 on teacher accountability; this is currently under review by the Economic Social Research Council, UK. Activities of the group are summarized in tables 11 and 12.

### 2.2.2 Migration, Urbanisation and Health Working Group

There are two streams of analytic activity underway, one to examine determinants of migration (MADIMAH 1) and another looking at

mortality outcomes associated with migration (MADIMAH 2). There is a proposal for a new stream, MADIMAH 3, to commence this year. The first phase of the MADIMAH (Multi-local Dynamics of Internal Migration and Health)

Project was a study on migration, urbanisation and human capital using datasets from eight HDSS centres.

## 2.3 Other Network Activities

### 2.3.1 DEMOSTAF Meeting and Scientific Seminar at INED in Paris

The Demography Statistics for Africa (DEMOSTAF) Project Inception Meeting was held at the Institut National D'Etudes Demographiques (INED) in Paris, France, from May 29 to 31, 2016. This is an EU-funded project involving European and African research institutes in a staff exchange programme. INDEPTH was represented by the Capacity Strengthening Manager, Dr. Martin Bangha. Dr. Bangha also participated at the INED-IUSSP scientific seminar on the theme "The challenges of demographic data in SSA relative to the SDGs", where he gave a presentation on "The input of INDEPTH HDSS sites to the SDGs." This was particularly helpful in underscoring the need and place of HDSS data in the national statistical systems as well as identifying ways and means of enhancing the capacities of respective member centres to generate the relevant data for monitoring the SDG indicators in the countries.



*INDEPTH Board member Prof. Abdramane Soura (right) and INDEPTH Capacity Strengthening and Training Manager Dr Martin Bangha at the DEMOSTAF meeting.*

### 2.3.2 Accra Meeting Discusses Closer HDSS, CRVS Linkages

Scientists shared experiences as they discussed opportunities and approaches for integrating Mortality Surveillance Systems. This happened during a workshop held in Accra from 24-26 May 2016 under the INDEPTH and Bloomberg Data for Health Initiative. The CRVS meeting was led by Prof. Don de Savigny (Swiss TPH). Participants came from Medical Research Council/ University of Witwatersrand (South Africa), Rufiji HDSS (Tanzania), Navrongo HDSS (Ghana) Kintampo HDSS (Ghana), Registration Insolvency and Trusteeship Agency (Tanzania), Dodowa HDSS (Ghana), Ghana Statistical Service (Ghana), Ghana Health Service (Ghana) and UNECA (Ghana). The objectives of the meeting were to: (1) facilitate linkages between CRVS and HDSS leadership in selected countries; (2) develop joint protocol(s) or approaches for data sharing/linkage that would allow assessment of CRVS birth and death completeness; conducting comparative assessment of cause specific mortality fractions; facilitating formal birth and death “registration” functions for birth and death events captured in HDSS or SAVVY sites and (3) to explore how to implement, test and adapt these protocols.

The Secretariat hosted the meeting which demonstrates the usefulness of HDSS in the national CRVS activities. The INDEPTH Executive Director and senior colleagues attended the

workshop. INDEPTH sits on a core group of institutions coordinated by UNECA that supports African and Asian countries in their efforts to strengthen CRVS in their countries.

### 2.3.3 Adolescent Fertility Analysis Workshop

A workshop was held on 2-6 May 2016 in Accra organised by the INDEPTH Fertility Working Group. There were 29 participants of which 17 were from INDEPTH HDSS sites (Dabat, Dodowa, Gilgel Gibe, Iganga-Mayuge, Kilite Awlaelo, Karonga, Kombewa, Kyamulibwa, Niakhar, Nairobi, Nanoro, Navrongo, Nouna, Ouagadougou, Rakai, and Taabo). The primary objective of the workshop was to enable comparative analyses of critical themes in adolescent fertility and contribute to a more nuanced understanding of emerging adolescent fertility levels and trends, through standardisation of relevant data from across the sites. A preliminary comparative analysis was undertaken using the pooled datasets from the 17 HDSS sites. The workshop was also an opportunity to build HDSS sites' capacity for reproductive health research and for research utilisation.

### 2.3.4 Participation at the PAA Annual Meeting

Capacity Strengthening Manager, Dr. Martin Bangha, attended the Population Association of America (PAA) Annual Meeting in Washington

DC from March 29 to April 2 and presented a paper entitled **Assessing Levels and Trends in Adult Mortality in Sub Saharan Africa using INDEPTH HDSS Data.**

### 2.3.5 EBOLA Risk Preparedness Training Workshop

The Institute for Health Metrics and Evaluation at the University of Washington has supported INDEPTH with an amount of \$75,000 to organize a 2-day workshop on Ebola Virus Disease mapping in February 25-26, 2016. Over 60 participants from 22 African countries attended the workshop whose objective was to broaden the knowledge of potential Ebola virus disease risk. They included countries that have experienced Ebola outbreaks: Uganda, DRC, Guinea, Liberia and Sierra Leone.

## Policy Engagement and Communications

### 3.0 Introduction to the Section

The main function of the section is to ensure INDEPTH maintains an ongoing dialogue with key stakeholders at all levels, so that the work of the Network is known, understood and used by those who develop policies and programmes. INDEPTH is fully committed to engaging policymakers so that the high quality data that is generated can be used to guide policy and planning processes.

The section uses various platforms and tools to raise the profile of INDEPTH as a Network and the profiles of individual HDSS sites as a source of critical health and development research and information, and to facilitate translation of findings into policy and practice (so to bridge a major evidence gap). At the international level, the Secretariat puts more effort into developing linkages with international agencies, scientific networks and associations whose mission aligns with that of INDEPTH. At the national level, the section coordinates forums aims at assisting members build stronger relationships with stakeholders such as Ministries of Health, National Statistical Organisations, local universities and the media.

By the end of 2016 the section had two full-time staff, David Mbulumi (PEC Manager) and Evelyn Potakey (Administrative Officer - PEC/Consultancies). The part-time member, Becky Kwei, who also works for *The Daily Graphic* newspaper in Ghana, has taken a one year study leave.

### 3.1 External Engagements

#### 3.1.1 INDEPTH ED visits Colombian Embassy in Accra



*The Executive Director of the INDEPTH Network, Prof Osman Sankoh, on Thursday 28 January 2016 met the Colombian Ambassador to Ghana, H.E. Claudia Turbay Quintero, to discuss avenues of collaboration with the Network. The ambassador is interested in a community intervention.*

### 3.1.2 INDEPTH calls on Swiss Ambassador

The Executive Director of the INDEPTH Network, Prof. Osman Sankoh (middle) and the Board Chair, Prof Marcel Tanner (left), on 10 March 2016 paid a courtesy call on the Swiss Ambassador to Ghana, Gerhard Brugger (right). They discussed strengthening INDEPTH-Swiss collaboration.



### 3.1.3 Policymakers Participate in Proposal Development



*Policymakers, HDSS representative and INDEPTH Secretariat staff in Addis Ababa.*

Policymakers from Burkina Faso, Ethiopia and Kenya were among 19 participants of the NUTRI-SCOPE proposal development workshop that was held in Addis Ababa, Ethiopia, from 11-13 July 2016. The proposed study links environment, nutrition and health research - closely involving HDSSs, the research modeling community and policymakers.

Other workshop participants came from INDEPTH Secretariat; HDSSs, namely Agincourt (South Africa), Kersa (Ethiopia), Nairobi (

Kenya), and Nouna (Burkina Faso); University of Nottingham (UK); University of Heidelberg (Germany); University of Bonn (Germany); PIK - Postdam; University of Haramaya and the London School of Hygiene and Tropical Medicine.

#### 3.1.4 In-Country Research to Policy Meeting held in Ethiopia

Seventy two researchers, academicians, policymakers, public health and media practitioners gathered in Addis Ababa, Ethiopia, on 19 August 2016 with the aim of promoting

stakeholder networking and discussing practical ways of bridging the research to policy divide within the health system in Ethiopia. The forum was funded by the INDEPTH Network and organised by Ethiopian HDSSs and their parent universities, in collaboration with the Ethiopian Public Health Association, Federal Ministry of Health, the Centers for Disease Control and Prevention (CDC), and Save the Children. INDEPTH funded similar forums in Ghana in December 2014, India in January 2015 and Tanzania in April 2015. Policy Engagement and Communications Manager David Mbulumi participated in the meeting. Benefits from the In-Country meetings include:

1. Enhanced visibility of INDEPTH brand and the work it does
2. Increased visibility of research centres, some of which are located in remote areas
3. The meetings kick-start interaction between HDSSs, researchers, members of the academia, local government and national policymakers and the media
4. Stakeholders are informed about immense potential of HDSS to support health policy development
  - Capacity to fill the data gap in developing nations
  - Longitudinal data of global comparable quality
  - HDSS operate in real life situations - not assumptions

### 3.2 Website and Social Media

The new, more user-friendly INDEPTH website was launched during the year and was presented to the INDEPTH Board and other stakeholders. A lot of effort was made to promote it through other communication platforms including newsletters, Facebook and Twitter. PEC staff ensured that the website had fresh news items every week and similarly for Facebook page. INDEPTH Twitter account and that of the Executive Director were very active during the year.

### 3.3 Newsletters

The INDEPTH Secretariat produces three kinds of newsletters namely Friday, Board and Quarterly newsletters. All these were produced and circulated as required, using a new more attractive template (mail chimp).

### 3.4 Media Relations and Press Releases

We continued to have good relations with the

media, effectively using media database for contacting journalists. We invited journalists to cover workshops in Accra and a major meeting in Addis Ababa, Ethiopia. They included radio, television, print journalists and bloggers. INDEPTH got good media coverage during the year. A number of newspaper articles were published in addition to online, television and radio coverage. All these contributed to increase the visibility of INDEPTH's work and the number of policy recommendations linked to INDEPTH studies.

INDEPTH produced press statements during major UN calendar events and also 1<sup>st</sup> July data repository updates. The Secretariat maintained the practice of involving Working Group and Project Leaders to write commentaries for press releases on UN Calendar Days: Malaria Day, Worlds TB Day, World Environment Day and International Women's Day.

### 3.5 Editorials

Editorial pieces appeared in top journals – **Africa's demographic future: why Africa should take the lead** *Lancet Global Health* by Osman Sankoh and **INDEPTH, one of the organisations that readily makes its data available** – *Lancet Diabetes and Endocrinology* – Justice Davies et al.

In another article, the INDEPTH model was cited as solution in strengthening CRVS. This was according to the paper titled **Counting who**

**is dying in Sub-Saharan Africa and what they are dying from: an imperative for the post-2015 agenda** published in the International Union for the Scientific Study of Population (IUSSP)'s online news magazine.

### 3.6 Publications

The INDEPTH Network strives to publish its research in peer-reviewed international journals, very often open-accessed, so that these can be readily available to all. Over 500 reviewed publications appeared in international journals from INDEPTH member centres in 2016 while we recorded over 40 multi-centre publications.

### 3.7 Briefs

The Secretariat also started work on developing briefs from six Systematic Reviews: **Pregnancy-related deaths: an unacceptable truth; The INDEPTH approach for tackling malnutrition; The status of children's school access in low- and middle-income countries between 1998 and 2013: using the INDEPTH Network platform to fill the research gaps; Cause-specific mortality in Africa and Asia: evidence from INDEPTH health and demographic surveillance system sites and Knowing malaria is eradicating malaria.**

### 3.8 Research to Policy Strategic Group

In its Strategic Plan for the period 2013-16, the Network has committed itself to “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.” And “To facilitate the translation of INDEPTH findings to maximize impact on policy and practice is the 3<sup>rd</sup> Strategic Objective of INDEPTH. In order to ensure that INDEPTH is effectively pursuing this objective and reaching out to all members, the INDEPTH Secretariat in 2015 changed the Policy Engagement Working Group into a Strategic Group.

The Secretariat regularly communicated with Centre Leaders and their communication focal persons encouraging them to share information from centres. PEC staff also searched for member centres information from various sources including websites and Google Alerts and reused the information on INDEPTH website, social media and newsletters. Three to four news items from Centres appeared on Friday newsletters every week which were also published on INDEPTH website and social media. In the 104 total number of news items published on the website between January and September 2016, half of them were from member centres. PEC will also encourage the use of Skype for these exchanges. This aims at sharing lessons and promoting member centres.

### 3.9 PEC Strategy

This was the first year of the implementation of the PEC strategy implementation. Priority areas

were identified as proposed in the strategy, starting with stakeholders mapping and more strategic use of the website and social media. Implementation plan aimed at ensuring better coordination of PEC activities. The strategy will be integrated in the new INDEPTH 2017-2021 Strategic plan.

### 3.10 INDEPTH 20<sup>th</sup> Anniversary Publication

Towards the end of 2016 the Network in collaboration with the African Media and Malaria Research Network (AMMREN) started preparations for a publication that will capture INDEPTH's 20 years of work, which demonstrates achievements in Science, Capacity Strengthening and Policy Engagement. This is part of preparations for the 20<sup>th</sup> anniversary of the INDEPTH Network.

## Institutional Collaborations

### 4.0 Introduction to the Section

Developing, strengthening and maintaining strategic collaborations and partnerships is critical to the success of the INDEPTH Network. Many organisations have resources that substantially enhance our ability to successfully execute current and future projects of the Network.

INDEPTH works closely with, among others, the Swiss THP, London School of Hygiene and Tropical Medicine (LSHTM), University of Heidelberg, Umea University, UNESCO, WHO, United Nations Economic Commission for Africa

(UNECA), University of Oxford, University of Southampton, Stanford University, Potsdam Institute for Climate Impact Research (PIK) and Statistics South Africa.

### 4.1 INDEPTH Stanford University Collaboration

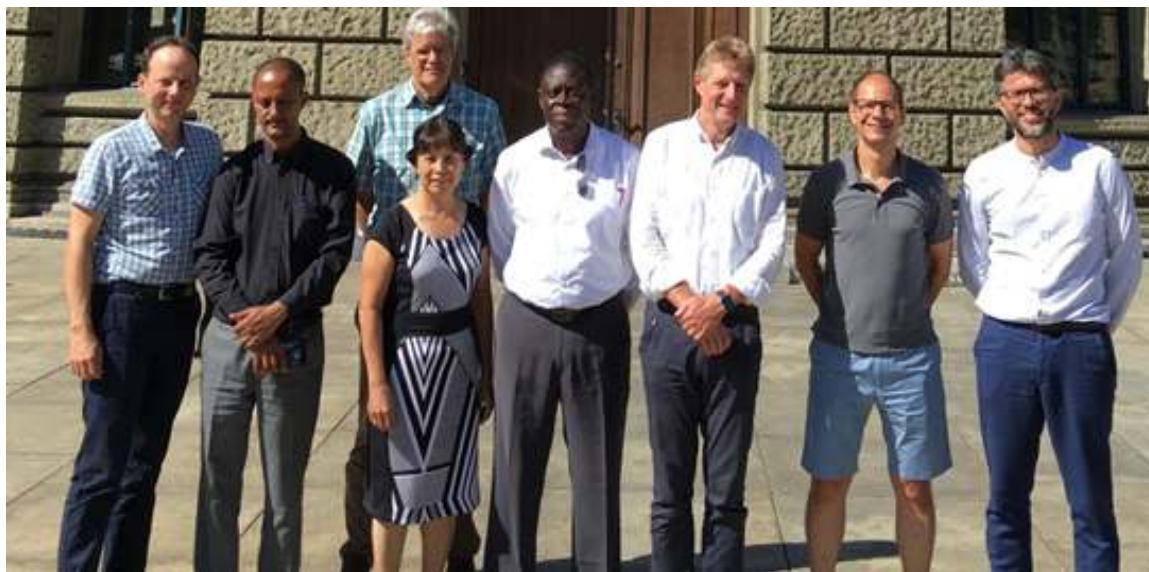
In 2015 the INDEPTH Board reviewed and unanimously approved collaboration between INDEPTH and Stanford University in the United States. A number of research areas were identified as being of common interest to this new collaboration: Antimicrobial resistance, cervical cancer, Secondary Data Analysis (Healthcare policy and cost-effectiveness analysis; Environmental stressors and social outcomes; Political structures governance capacity and health opportunities). During 2016 Stanford gave a seed grant of US\$200,000 to one of its faculty members to develop a research proposal with INDEPTH. This proposal development will be led by Dr Amy Bhatt, who will work with the INDEPTH AWI-Gen project to explore research problems in the area of genetics.

### 4.2 MiDATA Proposal Meeting

The MiDATA Project envisions a citizen-driven and citizen-owned initiative for strengthening the health information systems in low and medium income countries (LMICs). The initiative proposes to investigate the ethical, legal, societal and economic frameworks, and to develop guiding principles for the establishment of socially responsible health

data cooperatives in INDEPTH HDSS communities. The concept of health data cooperatives was introduced to INDEPTH by Prof. Ernst Hafen from the Institute of Molecular Systems Biology, ETH Zürich, Switzerland.

On 25-26 August 2016 INDEPTH General Projects and Information Systems Manager Titus Tei, Prof. Nguyen Thin Kin Chuc from Filabavi HDSS, Vietnam; Dr. Nega Assefa from Kersa HDSS, Ethiopia; Dr. Nicholas Maire from Swiss TPH, Prof. Ernst Hafen (ETH Zurich), prof. Serge Bignens (Institute for Medical Informatics, Bern University of Applied Sciences) and Dr. *Michele Loi* (ETH Zurich) participated in a proposal development



*MiDATA proposal team pose for a group photo after their meeting in Zurich.*



*Health experts who attended Chatham House/INDEPTH Roundtable in Accra.*

### 4.3 AAS, INDEPTH Discuss Possibilities for Cooperation

The African Academy of Sciences (AAS) and the INDEPTH Network explored possibilities for future collaboration. The AAS which enjoys the support and recognition of the African Union as well as several governments and major international partners, was established to help build capacity in science that is relevant to the needs of Africa.

On 31 March 2016 INDEPTH Policy Engagement and Communications Manager, David Mbulumi, visited AAS headquarters in Nairobi, Kenya, and met the Executive Director Prof. Berhanu Abegaz and their Senior Advisor Prof. Kevin Marsh. Mr. Mbulumi gave a short description of the work of INDEPTH and new opportunities for research as the Network develops its new strategic plan 2017-21. Prof. Abegaz and Prof. Marsh gave a briefing on what AAS does which include Funding research, Giving prizes for excellence in science and their Think tank function in policy and science strategies. This was followed by a discussion on possible areas of collaboration in research, capacity building and funding opportunities.

AAS broad areas of focus in Science Technology and Innovation are Climate Change; Health and Wellbeing; STEM (Science, Technology, Engineering and Mathematics); Water and Sanitation; Food Security and Nutritional Wellbeing and Sustainable Energy.

## The INDEPTH Resource and Training Centre

(formerly Secretariat)

**We have changed from INDEPTH Secretariat to the INDEPTH Resource & Training Centre in order to better reflect the work we do in Accra**

### 5.1 Meeting of the INDEPTH Board in Accra

The INDEPTH Board of Trustees met in Accra, Ghana on 11-12 March 2016. Board members who attended the meeting were Prof. Marcel Tanner (Chair), Mr. Pali Lehohla (Deputy Chair), Prof. Alemayehu Worku, Prof. Abhijit Chowdhury, Dr. Abdramane Soura, Dr. Walter Otieno, Prof. Nguyen Thi Kim Chuc, Prof. Peter Byass, Prof. Oche Oche, Prof. Osman Sankoh and the Board Secretary, Dr. Kofi Baku.

The Board acknowledged the Financial Report 2015, provisionally approved the unaudited

finances and looked forward to the audited finances after the audit process by KPMG. The Board also approved the Activity Report 2015, Work Plan 2016 and Budget 2016. One of the agenda items in the meeting was new INDEPTH Strategic Plan. Board members emphasized that INDEPTH should base its strategic goals, objectives, and work packages around contribution to the SDGs. Other agenda issues included CHES, Capacity Strengthening, Fundraising and the proposed INDEPTH Training Centre.

The Board also accepted the decision of the Centre Leaders at the 2015 AGM that iShare2 should not be a criterion for being a full member of the Network. They also agreed to the review membership status of Magu, Wosera, Kanchanaburi and West Kiang HDSSs because they could not fulfill some of the full membership criteria.

During the Board meeting, members again deliberated on the issue of competing and conflict of interest for experts who advise the Network, especially the SAC.

The Board again recognised the concerns of the Annual General Meeting of Centre Leaders in Addis Ababa in November 2015 that led them to prefer an independent SAC to an 'engaged' SAC. However, the Board emphasised the need to have SAC members who are interested in HDSS given its uniqueness and as such there will be

members who will have relationships with member centres. What is very important, says the Board, is that these members declare and competing and potential conflict of interest.

The Board hence decided that INDEPTH adapt the WHO form and request each and every SAC member to complete this and submit to the Secretariat. With this, the Board hopes to convince the AGM in Kampala that this is a better way forward for the Network, otherwise many current members of the SAC must step down since they have competing interests.

The Board also approved the plan to construct an INDEPTH Training Centre in Accra using new Secretariat-generated funds through overheads and coordination contributions from projects and/or from grants that are meant for the activity.

The Board guided that the Construction of an INDEPTH Training Centre should be part of the new Strategic Plan and that the newly established INDEPTH Endowment Fund should be considered as a strategy to raise funds for the Centre as well as financing the Strategic Plan.

### 5.2 Prof. Corrah to Serve on INDEPTH Board

The Director of the Africa Research Excellence Fund (AREF) Prof. Tumani Corrah joined the INDEPTH Board in April 2016. Prof. Corrah is also the MRC's foundation Director of Africa Research Development and the first Emeritus

Director of the Medical Research Council Unit (MRC), The Gambia. For three decades, Professor Corrah has retained active research interests in tropical and infectious diseases, including tuberculosis, HIV and malaria. He is medically qualified and holds a PhD from his studies on tuberculosis which included the ground-breaking science of the introduction of immunotherapy as an adjunct treatment for tuberculosis in The Gambia.

### 5.3 INDEPTH 15 Annual General Meeting

The 15<sup>th</sup> INDEPTH Network Annual General Meeting was held at Speke Resort Munyonyo in Kampala, Uganda, from 16-18 November 2016. It was preceded by meetings of the Scientific Advisory Committee (SAC) and the Board of Trustees.

### 5.3.1 SAC Meeting

The SAC advises INDEPTH on matters relating to the scientific activities of the Network thereby assisting it to focus on health, population and social issues of greatest potential policy impact. It is the SAC's responsibility to ensure that the highest scientific standards are upheld. The SAC, that met on 14 November 2016 received and discussed a report from the Executive Director on research activities of the Network. This included the assessment of Strategic/Working/Interest Groups and Projects. The SAC also reviewed the proposed new Strategic Plan 2017-2021.



*SAC members and some INDEPTH Secretariat staff after the meeting in Kampala.*

New proposals and funding possibilities were presented by the Secretariat and noted. Discussion centred on the previously raised issue of potential conflicts of interest among SAC members, in relation to the degree of scientific engagement by particular SAC members in Network and Centre activities. It was agreed that it was essential for the sake of transparency that all SAC members complete detailed declarations of any relevant interests, using the standard WHO form for the purpose. However, it was also agreed that the possibility of excluding SAC members from any scientific participation was unrealistic; engagement with Network science was a major factor in retaining interest and enthusiasm among SAC members.

Progress on the initial phase of CHES implementation was presented by the Secretariat. Work is progressing in Nanoro (Burkina Faso), despite some implementational problems, and Kersa (Ethiopia) will follow. SAC noted CHES as a transformational agenda for INDEPTH, moving towards the integration of morbidity and health facility data.

Verbal Autopsy was one of the key issues discussed by the SAC. The SAC recommended INDEPTH member centres to move towards the routine use of just finalised international standard for verbal autopsy (VA), known as “WHO 2016”, in order to achieve good

standardisation in conducting VAs and to build up archives of VA data for present and future analyses.

SAC also encouraged other member centres to engage in vaccines research so to get a wider evidence base to support the work that Prof. Peter Aaby has been doing in Guinea Bissau.

Publication strategy: SAC noted the need to increase scientific productivity and discussed how site scientists, particularly at junior levels, could be helped to publish successfully. Possible future workshops and sources of support were discussed.

Making current data rapidly available was important for maintaining INDEPTH's competitive advantage. SAC proposed a strategy whereby the annual update of INDEPTHstats and iSHARE data should be accompanied by publishing a high-level commentary piece describing the highlights of the new releases.

Sustainability: SAC recognised the challenges of sustainability for sites. Regular update rounds are a key concept, though operational innovations that can be demonstrated to not compromise data quality can be

proposed and considered.

The following SAC members attended: Prof. Peter Byass (Chair), Prof. Cheryl Moyer, Dr. Jocalyn Clark, Prof. Anna-Mia Ekstrom, Prof. Sam Clark and Prof. Philippe Bocquier. Prof. Tumani Corrah (newly appointed Board member) attended as an observer.

### 5.3.2 Board Meeting

The Board of Trustees met on 15 November 2016 to prepare for the AGM and among other things, reviewed and finalised the Executive Director's State of the Network Address and made inputs to the new Strategic Plan, activity report 2016, unaudited financial report 2016, the work plan for 2017 and the 2017 budget.



*INDEPTH Board members with some staff from the INDEPTH Secretariat in a group photo in Kampala.*

The Board agreed to SAC prepositions (section 6.3.1) and took note of the proposal to re-establish the 4-year term for SAC members. Other issues included:

- Reminder to INDEPTH Member Centres not to abandon their core business. Board members need to show more enthusiasm in support of this
- Importance of INDEPTH to pursue opportunities in personalised health. By not doing that the INDEPTH will be contributing to enlarging the gap between haves and have-nots in “our” communities
- INDEPTH going for profile funding approach in addition to writing proposals – show what the network can do. That INDEPTH is a good place for investment.
- Clarification on outgoing Chair term of office- It was the Board that had asked Prof. Tanner to stay longer after expiry of his term
- Need to refine data downloads and get more detailed reports - why there are more downloads in some parts of the world and less/none in other areas
- INDEPTH should get more into the policy space - force closer working relationships with statistical offices and to structure a dialogue to ensure an obvious relationship
- INDEPTH should contribute toward SDGs

and the MDGs unfinished agenda

- Policy development is an iterative process - it is not correct to think that scientists can generate evidence first and engage policymakers later. There is need to engage policymakers throughout.
- Board elections were held and two members re-elected: Prof. Nguyen Thi Kim Chuc and Dr. Walter Otieno
- Election of Board Chair to be conducted in March, meanwhile Prof. Peter Byass will be the Interim Chair

The following Board members attended: Prof. Marcel Tanner (Chair), Mr. Pali Lehohla (Deputy Chair), Prof. Alemayehu Worku, Prof. Abhijit Chowdhury, Dr. Josephine Odera, Dr. Walter Otieno, Prof. Nguyen Thi Kim Chuc, Prof. Peter Byass, Prof. Oche Oche, Prof. Osman Sankoh (INDEPTH Executive Director) and the Board Secretary, Dr. Kofi Baku.

### 5.3.3 Opening Ceremony

Over 80 delegates attended the opening of the 15th INDEPTH Network Annual General Meeting at Speke Resort Munyonyo in Kampala, Uganda on 16 November 2016. These included INDEPTH Member Centre Leaders or their representatives; Uganda-based HDSSs; INDEPTH partners and collaborators; funders and invited guests.

Opening the AGM, the Principal of the Makerere University College of Health Sciences, Prof. Charles Ibingira, acknowledged INDEPTH's contribution to science, policy and practice over the last 18 years and urged the AGM to come up with a formidable strategy for the Network for the next five years. A discussion on the new INDEPTH Strategic Plan (2017-2021) was one of the agenda items of the meeting.



*Principal of the Makerere University College of Health Sciences, Prof. Charles Ibingira.*

Prof. Ibingira also noted the changing dynamics from infectious diseases into what he called 'a Tsunami' of Non Communicable Diseases (NCDs) in Low and Middle Income Countries

where INDEPTH member centres operate, and challenged INDEPTH to give due attention to NCDs. Makerere University is the parent institution of the lead hosts of the AGM - the Iganga Mayuge HDSS.

Addressing the AGM, the INDEPTH Board Chair Prof. Marcel Tanner said the meeting offered an opportunity "to understand what we have done and profile why we are here....We are here in a process of mutual learning for change," he said.

He reminded the Member Centres of their role in generating policy relevant information that can change the condition of the people, insisting that the days of INDEPTH as a network of the "data hunters and gatherers" were long gone.

"We have to remain scientifically sound.

Background of our work is collecting information but it is not the same today as it was when we started. We face new challenges for example migration due to social-political reasons," he said, citing this as an example where INDEPTH can make policy relevant contribution.

Prof. Tanner stressed that INDEPTH strength was in sharing and comparing, and validation of approaches. He emphasised on syntheses and comparative analyses, in addition to the annual compilation of data. He also talked about the relevance of INDEPTH getting into the personalised health area, arguing that if INDEPTH did not include that in its new plans, the Network would also be contributing to widening the gap of inequalities which he said, has a public health ethical dimension.



*2016 AGM delegates return to the venue after a health break.*

### 5.3.4 Other AGM Agenda Items

The Board Chair's speech was followed by presentations from three HDSSs in Uganda, namely Iganga Mayuge, Rakai and Kyamulibwa before INDEPTH Network Executive Director Prof Osman Sankoh made the State of the Network Address.

Prof. Sankoh thanked the hosts and Centre Leaders who found time to attend the AGM despite other commitments. He expressed gratitude to funders, also acknowledging the presence of the representatives of Sida (from Stockholm and Ugandan office). The Swedish International Development Cooperation Agency has provided strong support for INDEPTH for many years.

The INDEPTH Executive Director encouraged Member Centres to share their data, noting that there has not been any example of data misuse by people who download from the INDEPTH repository. "Now there is more confidence, we have 32 sites on INDEPTHStats, but we still need more."

His address covered a number of areas including membership issues; scientific research; capacity strengthening; Policy engagement, financial performance and key challenges. Prof Sankoh also informed the AGM on the progress of the initial phase of implementation of INDEPTH's new generation of population surveillance operations (CHES) in Burkina Faso. In addition, he acknowledged other centres that were also implementing initiatives similar to CHES.

The meeting approved the minutes of AGM 2015 held in Addis Ababa, Ethiopia. They also approved the Executive Director's report for the year ended 31 December 2015, also received, discussed and approved the audited accounts of the financial year ended 31 December 2015, unaudited financial report 2016, the work plan for 2017 and the 2017 budget.

Other issues included update on the 2017 INDEPTH Scientific Conference (ISC 2017) - to which it was agreed that there will be no ISC in 2017 as previously planned, but an AGM that will be held in Dubai to be followed by the 2018 (20th Anniversary) ISC in Accra and an AGM 2019 in South Africa. Kolkata in India will host the 2010 ISC.

The new Strategic Plan 2017-2021 was also presented at the AGM. There was also a session on sustainability issues. This came on the background that some HDSS sites have recently suspended operations while others are reducing the frequency of their update rounds. This session discussed approaches to reducing HDSSs and INDEPTH operational costs in order to ensure sustainability of both the Network and its member centres. There were also sessions on future opportunities where Dr. Lucia D'Ambruoso from University of Aberdeen and Prof. Ernst Hafen from ETH Zürich made presentations.

Prof. Peter Byass and Dr. Jocalyn Clark (Executive Editor of The Lancet) led a discussion on The Lancet Countdown's inaugural report and the

applicability within the African context. The session discussed how INDEPTH's existing research projects can contribute to the development of the Lancet Countdown's proposed indicators and indicator domains.



*A session in progress.*

Climate change is a global phenomenon and responding to it could be the greatest global health opportunity of the 21st century. It was noted that INDEPTH has already some involvement in climate related studies. There is an INDEPTH Working Group on Climate Change and Health; there is also a number of publications from INDEPTH members and even a PHD thesis from a student from one of the INDEPTH Member Centres. It was concluded that INDEPTH was well placed to interact with all the stakeholders involved and it would be worthy to for Climate and Health to have a slot in the new INDEPTH Strategic plan 2017-2021.

### 5.3.5 Closing Ceremony

The AGM ended on 18 November 2016 and the Board Chair, Prof. Marcel Tanner thanked the Ugandan HDSSs for hosting a very successful meeting. Prof. Tanner said he was stepping down and elections for the new Board Chair would be held in March 2017. In the meantime Prof. Peter Byass would be the Interim Chair. On the results of the Board members elections conducted earlier, he announced that Prof. Nguyen Thi Kim Chuc and Dr. Walter Otieno had been re-elected to the Board. The voting was done by Centre Leaders and/or representatives of Centre Leaders.

The Board Chair also alluded to the proper status of the Accra INDEPTH Secretariat, which he said would now be referred to a Resource and Training Centre. On the Draft Strategic Plan, he said it would be re-circulated to Centre Leaders for their review and feedback before it is finalised.

Dr. Bejaranos advised INDEPTH that the new Strategic plan should focus on what INDEPTH is good at and can do best. She expressed concern on Sida being the only current core funder saying support from additional funders was important for INDEPTH's sustainability and feasibility. The Sida official also challenged INDEPTH to find ways of managing growth of the Network to which she asked: "How big can an organisation become to be manageable?". She concluded by urging member centres need to show enthusiasm on the Network.



The INDEPTH Executive Director, Prof. Osman Sankoh, called for greater collaboration between Ugandan HDSS sites. He challenged Uganda HDSSs to put their data together and make a comparison of trends, patterns in VA and

other core indicators. In response to manageable growth challenge he said: "INDEPTH strength is in diversity but will see how we manage growth". The ED thanked the outgoing Chair Prof Tanner and the hosts.



*A cultural show after the official closing ceremony.*

Centres that were represented at the AGM:

1. Arba Minch HDSS, Ethiopia
2. Birbhum HDSS, India
3. Butajira HDSS, Ethiopia
4. Chililab HDSS, Vietnam
5. Dabat HDSS, Ethiopia
6. Dikgale HDSS, South Africa
7. Dodowa HDSS, Ghana
8. Farafenni HDSS, Gambia
9. Gigel Gibe HDSS, Ethiopia
10. Hanoi Medical University, Vietnam
11. Iganga/Mayuge HDSS, Uganda
12. Institute for Research and Development
13. Karonga HDSS, Malawi
14. Kaya HDSS, Burkina Faso
15. Kilifi HDSS, Kenya
16. Kilite Awlaelo HDSS, Ethiopia
17. Kombewa HDSS, Kenya
18. Kyamulibwa HDSS, Uganda
19. Magu HDSS, Tanzania
20. Manhica HDSS, Mozambique
21. Nahuche HDSS, Nigeria
22. Nanoro HDSS, Burkina Faso
23. Ouagadougou HDSS, Burkina Faso
24. Rakai HDSS, Uganda

### **5.3.6 VAPAR workshop after AGM**

The workshop focused on the development of a people-centred health systems research project called VAPAR (Verbal Autopsy and Participatory Action Research). VAPAR is a method to combine extended VA data describing mortality

in large groups of people in terms of social and systems circumstances, to provide complementary information on medical causes. VAPAR then combines these with local knowledge gained from Participatory Action Research (PAR), a process in which communities organise evidence for action. The method is embedded in the health system at different levels throughout to ensure practical relevance. Dr. Lucia D'Ambruoso, a lecturer in global health at the University of Aberdeen, presented three elements of the method for discussion with representatives of INDEPTH member centres:

- o New ways to routinely record and understand deaths investigated in Verbal Autopsy (VA) in related to the circumstances of mortality;
- o Participatory action research (PAR) as a method to generate evidence with communities on social and health systems avoidable mortality;
- o Working with health systems practitioners to interpret eVA and PAR data, producing actionable public health agendas.

The piloted methodology is intended for further application and evaluation in other settings to further evaluate issues related to costs, scalability and sustainability.

### 5.3.7 Data Analysis Group Meet in Kampala



*The INDEPTH Data Analysis Strategic Group during their meeting in Kampala as a side meeting during the AGM.*

With INDEPTHStats and the INDEPTH Data Repository being regularly updated with new and/or additional data every year (since 2013) on July 1<sup>st</sup>, only a press release announcing the new data release was circulated. This press release was of limited outreach and offered minimal publicity/ visibility to the Network. Following a series of discussions on the need to have the data resource more widely reported on or further analysed, it was agreed that we should organise to have regular narrative reports (in place of press release) published

along with the data release. On this basis, the INDEPTH Executive Director recommended that a data analysis group meeting be convened alongside AGM in Kampala. Some 12 participants (cumulatively at different times) attended the meeting held alongside the AGM from November 15-18, 2016. The agenda included: General discussion: Broad outline of output(s); target audience/readership; proposed analytical methods and detailed outline; key roles, and timelines. Following the discussions, it was agreed that the

narrative/descriptive report should cover six broad topics: Population structure, Fertility, Migration, Mortality, Burden of Disease and projections.

#### 5.4 Visitors to the Resource Centre in Accra

Over the years, the INDEPTH Resource Centre in Accra, Ghana, has played host to many high profile visitors and guests such as funders, collaborators and partners (both current and potential) who wish to further acquaint themselves with the coordination work of the Secretariat as well as Network activities in general. During these visits, presentations are made on general as well as specific activities of the Network and also on the role of the various departments at the Secretariat. There are also interactions with the Secretariat's management and staff. Some notable visitors to the Secretariat during the year are presented below:

##### 5.4.1 Prof. Akuffo from Sida

The Head of the Research Cooperation Unit of the Swedish Development Cooperation Agency (Sida), Prof. Hannah Akuffo, on 14 January 2015 visited the Resource Centre in Accra and had a meeting with staff during which she commended INDEPTH for the work it is doing.

Prof. Akuffo, who is also a professor at Karolinska Institutet in Stockholm, Sweden, was accompanied by her husband, Prof. Sven-Britton, and her sister, Justice Sophia Akuffo of

the Supreme Court of Ghana. "I am proud of INDEPTH because of what it is doing...and the determination of the founders because it was not easy when they started," she said referring to challenges in getting the new organisation funded at the time.

The Sida visitor said she was happy to have had visited some of the field sites where INDEPTH members conduct research, also mentioning

Iganga Mayuge in Uganda, which she said Sida was proud to have contributed to its establishment. Welcoming the visitors, INDEPTH Senior Finance Manager, Sixtus Apaliyah, on behalf of the Executive Director, said INDEPTH was very grateful to Sida for its commitment to support the Network. Sida has provided core funding support to INDEPTH for many years.



*Prof. Akuffo (2<sup>nd</sup> line 2<sup>nd</sup> left) during her visit to the Resource Centre*

#### 5.4.2 Gates Foundation official to the Secretariat

On 17 February 2016 the Secretariat hosted a representative from the Gates Foundation, Dr. Hong Wang. Dr. Wang is the programme officer for the \$2.3M INDEPTH project on household out-of-pocket expenditures (iHOPE) funded by the Gates Foundation. The project is undertaken by Ouagadougou (Burkina Faso), Navrongo (Ghana) and Filabavi (Vietnam).

Welcoming him the INDEPTH Executive Director, Prof. Osman Sankoh, said the visit was a sign of good partnership between the Network and the funding organisation. He also informed Dr. Wang of INDEPTH's recent involvement in Africa's Civil Registration and Vital Statistics (CRVS) initiatives, which he said, put the Network in a position where it can be of more benefit to the countries where INDEPTH does research and beyond. Prof Sankoh sits in the CRVS Core Group of experts which is coordinated by UNECA in Addis Ababa.

Speaking to INDEPTH Secretariat staff, Dr. Wang said his unit at Gates Foundation focused on primary health care systems: "We focus more on what can benefit the vulnerable population... on how we can improve primary health care." He stressed the need to promote measurement of health systems performance, saying "otherwise we won't be able to improve." Dr. Wang also held discussions with Prof. Sankoh and Dr. James Akazili on the iHOPE Project. Dr. Akazili is the Project Manager.



*Dr. Wang (centre) with INDEPTH Executive Director Secretariat staff in Accra.*

#### Staff Retreat

Staff review progress and 2017 plans at retreat. The INDEPTH Resource and Training Centre held its annual staff retreat on 16 December 2016 at Ampomaah Hotel in Accra, Ghana. The retreat was to review the activities of all the sections of the Network for 2016 as well as finalise the work plans for 2017. They also worked on issues raised at the recently ended INDEPTH Annual General Meeting that was held in Kampala, Uganda.

All departmental managers: General Administration, Finance, General Projects and ICT, Grants Management, Capacity Strengthening and Training, Science and Policy Engagement and Communications made presentations on behalf of their sections.

The Executive Director of INDEPTH, Prof Osman Sankoh, talked about the successes and

challenges of the Accra office and the Network during the year and his expectations for 2017. He thanked staff for their commitment and wished them a successful 2017.

## New INDEPTH Strategic Plan 2017 - 2021



*A section of staff during the retreat.*

Work on the new INDEPTH Strategic Plan (2017-2021) started during the year under review following guidance from the Board of Trustees

in their meeting in Accra in March 2016. A strategic planning meeting was held in Johannesburg, South Africa, from 4-6 August 2016 to reflect on the emerging opportunities and future strategic direction for the Network in general and for Working Groups (WG), and projects in particular. A total of 26 delegates including leaders of active Working Groups and project leaders/PIs, Board and SAC representatives and a team from the Secretariat participated at this important meeting.

The team worked on the VISION and MISSION, and STRATEGIC OBJECTIVES of INDEPTH and identified study opportunities that were classified into 5 broad categories as follows:

1. Platform infrastructure development;
2. Core foundational;
3. Life course studies;
4. Leveraging longitudinal platforms; and
5. Determinants and contexts.

The Strategic Plan was reviewed by the SAC, Board and provisionally adopted by the AGM in Kampala, Uganda in November 2016. Centre Leaders were given more time to provide inputs after which the document will be finalised for implementation.

## Board of Trustees

The Board of Trustees now consists of a total of 11 members: 6 Elected Members representing the member centres of the Network; 3 Members appointed by the Elected Members;

the Executive Director as an Ex-Officio Member; and the Chair of the Scientific Advisory Committee as a Co-Opted Member.

The Chair and Vice Chair of the Board are elected from among the members. The Board Secretariat is the legal adviser to the Network.

The Board's primary role is to provide oversight and accountability for the activities of the Secretariat and the Network as a whole. The Board appoints the INDEPTH Executive Director and is responsible for appraising his/her performance.



**Prof. Marcel Tanner**  
Chair  
Swiss Tropical & Public Health, Switzerland



**Mr. Pali Lehohla**  
Vice Chair  
Statistician-General, South Africa



**Prof. Abdramane Soura**  
Member  
Ouagadougou HDSS, Burkina Faso



**Prof. Peter Byass**  
Member  
University of Umeå, Sweden



**Prof. Alemayehu Worku**  
Member  
Butajira HDSS, Ethiopia



**Dr. Walter Otieno**  
Member  
Kombewa HDSS, Kenya



**Prof. Osman Sankoh**  
Ex-Officio Member, Executive Director  
Accra, Ghana



**Prof. Abhijit Chowdhury**  
Member  
Birbhum HDSS, India



**Prof. Nguyen Thi Kim Chuc**  
Member  
Filabavi HDSS, Vietnam



**Dr. Josephine Odera**  
Member, Nairobi, Kenya



**Dr. Kofi Baku**  
Board Secretary  
University of Ghana, Ghana



**Prof. Oche Mansur Oche**  
Member  
Nahuče HDSS, Nigeria



**Prof. Tumani Corrah**  
Member, Banjul, The Gambia

## Scientific Advisory Committee

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.

In addition, the SAC facilitates ongoing communication between INDEPTH and donors and key scientific stakeholders. Members of the

SAC are selected on their personal merits. They represent diverse constituencies including NGOs, academic institutions pharmaceutical and clinical research organizations, etc.



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Member  
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**Prof. Philippe Bocquier**  
Member  
Université Catholique  
de Louvain SSH/IACS

## Centre Leaders

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 as Site Leaders. ALL centre/site leaders receive communications from the Secretariat.



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**Sandeep Bhujbal**  
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**Prof. Tathagata Bhattacharjee**  
Senior Data Manager  
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## Migration, Urbanisation and Health



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Principal Investigator  
Agincourt, South Africa



**Dr. Mark Andrew Collison**  
Principal Investigator  
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## Project and Working Group Leaders



**Dr. Ali Sie**  
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**Dr. James Akazili**  
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**Dr. Philippe Bocquier**  
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Catholic University of Leuven  
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**Prof. David Ross**  
Sexual and Reproductive Health  
(and IHTAS Project), LSHTM  
United Kingdom



**Prof. Fred Binka**  
INESS Secretariat, Ghana



**Prof. Jacques Emina**  
EVIDENCE Project  
University of Kinshasa, DRC



**Prof. Margaret Gygpong**  
Social Science, Dodowa  
Ghana



**Prof. Michele Ramsey**  
AWI-GEN Project  
University of Witwatersrand  
South Africa



**Prof. Peter Aaby**  
Vaccination and Child  
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and OPTIMUNISE Project  
Bandim, Guinea Bissau



**Prof. Peter Byass**  
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Umea University, Sweden



**Prof. Peter Waiswa**  
Maternal and Newborn  
Health WG  
Iganga-Mayuge, Uganda



**Prof. Sam Clark**  
Mortality Analysis WG  
University of Washington, USA



**Prof. Steve Tollman**  
Adult Health and Aging  
Agincourt WG, South Africa

***INDEPTH NETWORK***  
*(A Company Limited by Guarantee)*

***FINANCIAL STATEMENTS***  
***31 DECEMBER 2016***

**INDEPTH NETWORK**

*(A Company Limited by Guarantee)*

**ANNUAL REPORT AND FINANCIAL STATEMENTS**

**I N D E X**

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## INDEPTH NETWORK

*(A Company Limited by Guarantee)*

### CORPORATE INFORMATION

#### BOARD OF TRUSTEES

|                          |   |
|--------------------------|---|
| Prof. Peter Byass        | - Interim Chair ( <i>Appointed: November 2016</i> ) |
| Mr. Pali Lehohla         | - Vice Chair  |
| Prof. Osman Sankoh       | - Executive Director                                |
| Dr. Kofi Baku            | - Board Secretary                                   |
| Prof. Alemayehu Worku    | - Member  |
| Dr. Walter Otieno        | - Member  |
| Prof. Nguyen Chuc Nguyen | - Member  |
| Dr. Abdramane Soura      | - Member  |
| Prof. Oche Mansur Oche   | - Member  |
| Dr. Josephine Odera      | - Member  |
| Prof. Tumani Corrah      | - Member  |
| Prof Wordofa M. Abera    | - Member ( <i>Appointed: November 2015</i> )        |
| Prof. Abhitjit Chowdhury | - Member ( <i>Resigned: November 2016</i> )         |
| Prof. Marcel Tanner      | - Chair ( <i>Resigned: November 2016</i> )          |

#### AUDITOR

KPMG  
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13 Yiyiwa Drive, Abelenkpe  
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#### REGISTERED OFFICE

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#### SOLICITOR

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Legon

#### BANKERS

Barclays Bank of Ghana Limited  
GCB Bank Limited  
Guaranty Trust Bank Ghana Limited  
HFC Bank (Ghana) Limited  
UBS International, USA

**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 2016.

**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 2016, 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 42 member centres running 47 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.

**FINANCIAL STATEMENTS**

The results for the year are as set out in the attached financial statements.

**APPROVAL OF THE FINANCIAL STATEMENTS**

The financial statements of the Network as indicated above were approved by the Board of Trustees on

09/05/2017 and are signed on their behalf by:

  
.....  
TRUSTEE

  
.....  
TRUSTEE





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

**Report on the Financial Statements**

*Opinion*

We have audited the financial statements of INDEPTH Network which comprise the statement of financial position at 31 December 2016, the statement of financial performance, statement of changes in net assets and cash flows 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 12 to 23.

In our opinion, these financial statements give a true and fair view of the statement of financial position of INDEPTH Network Secretariat at 31 December 2016, 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).

*Basis for Opinion*

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under these standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the International Ethics Standards Board for Accountants Code of Ethics for Professional Accountants (IESBA Code) together with the ethical requirements that are relevant to our audit of the financial statements in Ghana, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

*Responsibilities of the Trustees for the Financial Statements*

The Trustees are responsible for the preparation of financial statements that give a true and fair view 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.

In preparing the financial statements, the Trustees are responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

The Trustees are responsible for overseeing the Company's financial reporting process.

KPMG, a partnership established under Ghanaian law, is a member of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

N.A. Dodoo  
A.K. Sejjong  
N.A. Asiedu  
J. Coleman

E.O. Asiedu  
D.S. Adornet  
E. Fiampong-Kofo  
N.D. Harley  
A.O. Akoto  
P.N. Dennis



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

*Auditor's Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit 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 Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Trustees' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- We communicate with the Trustees regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

KPMG, a partnership established under Danish law, is a member of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

N.A. Døstbo  
A.S. Søgaard  
R.A. Aylvor  
J. Clemens

E.O. Aarhøj  
D.S. Aarhøj  
K. Henningsen  
N.D. Harley  
A.O. Aarhøj  
P.H. Døstbo



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


**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.

The engagement partner on the audit resulting in this independent auditor's report is **Nathaniel D. Harley** (ICAG/P/1056)

  
For and on behalf of:  
**KPMG: (ICAG/F/2017/038)**  
**CHARTERED ACCOUNTANTS**  
**13 YIYIWA DRIVE, ABELENKPE**  
**P O BOX GP 242**  
**ACCRA**

 ..... 2017

KPMG, a partnership established under Ghanaian law, is a member of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

N.A. Dodoo  
A.E. Sarpong  
R.A. Agor  
J. Coleman

E.O. Asiedu  
D.S. Adityan  
K. Frempong-Kom

N.D. Harley  
A.O. Akoto  
F. N. Dennis



INDEPTH NETWORK

(A Company Limited by Guarantee)

STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2016

|  | Note | 2016<br>US\$     | 2015<br>US\$     |
|--|------|------------------|------------------|
| <b>ASSETS</b>                              |      |                  |                  |
| <b>Non-current assets</b>                  |      |                  |                  |
| Property, plant and equipment              | 16   | 36,758           | 54,943           |
| Long term investment                       | 18   | 1,398,896        | -                |
| <b>Total non-current assets</b>            |      | <u>1,435,654</u> | <u>54,943</u>    |
| <b>Current assets</b>                      |      |                  |                  |
| Cash and cash equivalents                  | 17   | 980,331          | 2,281,374        |
| Short term investment                      | 18   | -                | 1,389,523        |
| Recoverable from non-exchange transactions | 19   | 1,149,671        | 238,582          |
| Receivables from exchange transactions     | 20   | 79,104           | 31,529           |
| Prepayment                                 | 21   | 16,133           | 59,650           |
| <b>Total current assets</b>                |      | <u>2,225,239</u> | <u>4,000,658</u> |
| <b>TOTAL ASSETS</b>                        |      | <u>3,660,893</u> | <u>4,055,601</u> |
| <b>LIABILITIES</b>                         |      |                  |                  |
| <b>Current liabilities</b>                 |      |                  |                  |
| Accrued expenses and payables              | 22   | 123,000          | 420,731          |
| Committed grants deferred                  | 30   | 1,533,844        | 1,636,439        |
| <b>TOTAL LIABILITIES</b>                   |      | <u>1,656,844</u> | <u>2,057,170</u> |
| <b>Net assets</b>                          |      | <u>2,004,049</u> | <u>1,998,431</u> |
| <b>Financed by:</b>                        |      |                  |                  |
| Endowment fund                             | 23   | 1,429,948        | 1,389,825        |
| Accumulated Surplus                        |      | 574,101          | 608,606          |
|  |      | <u>2,004,049</u> | <u>1,998,431</u> |

  
TRUSTEE

  
TRUSTEE

The financial statements were signed on 09/05/ 2017.

The notes on pages 12 to 23 are an integral part of these financial statements.

**INDEPTH NETWORK**  
*(A Company Limited by Guarantee)*  
**STATEMENT OF FINANCIAL PERFORMANCE**  
**AT 31 DECEMBER 2016**

|   | Note | 2016<br>US\$     | 2015<br>US\$     |
|---|------|------------------|------------------|
| <b>Revenue</b>  |      |                  |                  |
| <b>Funds received from donors</b>                             |      |                  |                  |
| Secretariat-core activities                                   | 5    | 2,140,897        | 1,738,482        |
| Programmes  | 6    | 1,390,005        | 3,567,693        |
| <b>Sub-total</b>  |      | <u>3,530,902</u> | <u>5,306,175</u> |
| Other revenue   | 7    | 18,635           | 47,017           |
| <b>Total revenue</b>  |      | <u>3,549,537</u> | <u>5,353,192</u> |
| Governance meeting expenses                                   | 8    | 141,664          | 175,412          |
| Scientific workshop and coordination expense                  | 9    | 1,280,778        | 2,164,922        |
| Capacity strengthening workshop expenses                      | 10   | 522,933          | 708,861          |
| Annual general and scientific meetings                        | 11   | 122,665          | 257,393          |
| Sub grants to member centres                                  | 12   | 595,736          | 1,327,728        |
| General secretariat running costs                             | 13   | 856,657          | 1,253,116        |
| <b>Total expenditure</b>                                      |      | <u>3,520,433</u> | <u>5,887,432</u> |
| <b>Surplus/ (Deficit) before financial income and expense</b> |      | <u>29,104</u>    | <u>(534,240)</u> |
| Finance income  | 14   | 40,123           | 2,883            |
| Finance expense   | 15   | (63,609)         | (55,832)         |
| Net financial expense   |      | <u>(23,486)</u>  | <u>(52,949)</u>  |
| <b>Surplus/ (Deficit) after financial income and expense</b>  |      | <u>5,618</u>     | <u>(587,189)</u> |

The notes on pages 12 to 23 are an integral part of these financial statements.

## INDEPTH NETWORK

*(A Company Limited by Guarantee)*

### STATEMENT OF CHANGES IN NET ASSETS FOR THE YEAR ENDED 31 DECEMBER 2016

|                                      | Accumulated<br>fund<br>US\$ | Endowment<br>fund<br>US\$ | Total<br>US\$    |
|--------------------------------------|-----------------------------|---------------------------|------------------|
| <b>2016</b>                          |                             |                           |                  |
| Balance at 1 January                 | 608,606                     | 1,389,825                 | 1,998,431        |
| Change in net assets during the year | 5,618                       | -                         | 5,618            |
| Transfer                             | (40,123)                    | 40,123                    | -                |
| Balance at 31 December               | <u>574,101</u>              | <u>1,429,948</u>          | <u>2,004,049</u> |
| <b>2015</b>                          |                             |                           |                  |
| Balance at 1 January                 | 1,198,678                   | 1,386,942                 | 2,585,620        |
| Change in net assets during the year | (587,189)                   | -                         | (587,189)        |
| Transfer                             | (2,883)                     | 2,883                     | -                |
| Balance at 31 December               | <u>608,606</u>              | <u>1,389,825</u>          | <u>1,998,431</u> |

The notes on pages 12 to 23 are an integral part of these financial statements.

**INDEPTH NETWORK**  
*(A Company Limited by Guarantee)*  
**STATEMENT OF CASH FLOWS**  
**FOR THE YEAR ENDED 31 DECEMBER 2016**

|   | Note | 2016<br>US\$ | 2015<br>US\$ |
|---|------|--------------|--------------|
| Surplus/ (Deficit) for the year                                       |      | 5,618        | (587,189)    |
| Depreciation for the year   |      | 21,597       | 23,424       |
| Interest income   |      | (43,535)     | (2,883)      |
| (Increase)/ Decrease in receivables from<br>non-exchange transactions |      | (911,089)    | 606,589      |
| (Increase) in receivables from exchange transactions                  |      | (47,575)     | (10,896)     |
| Decrease in prepayments   |      | 43,517       | 43,518       |
| (Decrease)/increase in payables                                       |      | (297,731)    | 322,497      |
| Change in net deferred grants   |      | (102,595)    | (2,742,195)  |
| Loss on disposal of plant and equipment                               |      | -            | 2,470        |
|   |      | -----        | -----        |
| Net cash used in operating activities                                 |      | (1,331,793)  | (2,344,665)  |
|   |      | -----        | -----        |
| <b>Cash flows used in investing activities</b>                        |      |              |              |
| Acquisition of property, plant and equipment                          | 16   | (3,412)      | (38,219)     |
| Proceeds from disposal of plant and equipment                         |      | -            | 4,500        |
| Purchase of long term investment                                      |      | (1,391,000)  | -            |
| Interest received   |      | 35,639       | 2,883        |
|   |      | -----        | -----        |
| Net cash generated from/ (used in) investing activities               |      | (1,358,773)  | (30,836)     |
|   |      | -----        | -----        |
| <b>Net decrease in cash and cash equivalents</b>                      |      | (2,690,566)  | (2,375,501)  |
|   |      | =====        | =====        |
| <b>Movement in cash and cash equivalents</b>                          |      |              |              |
| Cash and cash equivalents at beginning of the year                    |      | 3,670,897    | 6,046,398    |
| Net cash outflow  |      | (2,690,566)  | (2,375,501)  |
|   |      | -----        | -----        |
| <b>Cash and cash equivalents at end of the year</b>                   |      | 980,331      | 3,670,897    |
|   |      | =====        | =====        |
| <b>Analysis of Cash and Cash Equivalent</b>                           |      |              |              |
| Cash at Bank  |      | 980,331      | 2,281,374    |
| Short term investment (T-Bills)                                       |      | -            | 1,389,523    |
|   |      | -----        | -----        |
|   |      | 980,331      | 3,670,897    |
|   |      | =====        | =====        |

The notes on pages 12 to 23 are an integral part of these financial statements.

## INDEPTH NETWORK

*(A Company Limited by Guarantee)*

### STATEMENT OF COMPARISON OF BUDGET AND ACTUAL FOR THE YEAR ENDED 31 DECEMBER 2016

#### Budget for the period under review

The budget and actual analysis provide the key projects undertaken by INDEPTH Network. These projects drive the business of the Organisation

|   | 2016             | 2016             |                    |               |
|---|------------------|------------------|--------------------|---------------|
|   | Annual<br>Budget | Expenditure      | Budget<br>Variance | Variance<br>% |
|   | US\$             | US\$             | US\$               |               |
| SIDA/Research Cooperation                         | 1,590,924        | 1,495,318        | 95,606             | 6             |
| Hewlett Foundation - Core support                 | 549,972          | 549,972          | -                  | -             |
| LSHTM - ENAP Project                              | 249,379          | 147,005          | 102,374            | 41            |
| Oxford University - Abacus Project                | 247,094          | 128,660          | 118,434            | 48            |
| IHME - Ebola Project                              | 87,069           | 89,729           | (2,660)            | (3)           |
| Chatham House roundtable meeting                  | 15,562           | 13,363           | 2,199              | 14            |
| Civil Registration and Vital Statistics - CRVS    | 27,567           | 27,569           | (2)                | -             |
| SSI/DANIDA - Vaccination & Child Survival         | 111,869          | 111,869          | -                  | -             |
| NUTRI-SCOPE Meeting                               | 13,561           | 13,263           | 298                | 2             |
| EU/Heidelberg University - IDAMS                  | 10,213           | 10,213           | -                  | -             |
| Save the Children                                 | 5,575            | -                | 5,575              | 100           |
| GlaxoSmithKline - GSK                             | 24,676           | 24,676           | -                  | -             |
| Global Alliance for Vaccines & Immunization       | 51,482           | 2,894            | 48,588             | 94            |
| NIH/Wits Health Consortium - Awi-gen Project      | 186,541          | 66,355           | 120,186            | 64            |
| VAPAAR Meeting                                    | 11,507           | 11,378           | 130                | 1             |
| Wellcome Trust/ University of KwaZulu Natal       | 332,125          | 432,490          | (100,365)          | (30)          |
| Population Council - Evidence Project             | 56,123           | 56,123           | -                  | -             |
| Bill and Melinda Gates Foundation - IHOPE Project | 454,024          | 323,403          | 130,621            | 29            |
| INDEPTH Core                                      | 60,844           | 60,844           | -                  | -             |
| <b>Total</b>                                      | <b>4,086,108</b> | <b>3,565,123</b> | <b>520,985</b>     |               |

The notes on pages 12 to 23 are an integral part of these financial statements.

Additional information about the budget and a reconciliation of amounts as per the above statement and the actual amounts in the statement of cash flows is disclosed in note 4 to the financial statements.

Budget compared to actual spend is only required to be disclosed by IPSAS 24 when budgets are publically available. INDEPTH Network has chosen to disclose this information voluntarily to enhance the transparency of its financial statements and the accountability of management for delivering the INDEPTH Network Secretariat services.



## INDEPTH NETWORK

*(A Company Limited by Guarantee)*

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

#### 1 GENERAL INFORMATION

INDEPTH Network is a Company registered and domiciled in Ghana. The address of the Company's registered office can be found on page 2 of the annual report. The main activities of the Organisation are to conduct longitudinal health and demographic evaluation of populations in low and middle income countries, strengthen global capacity for HDSS, co-ordinate and mount cross-national research, and disseminate health information based on up-to-date scientific evidence from different health research centres across the developing world

#### 2 STATEMENT OF COMPLIANCE AND BASIS OF PREPARATION

##### a. Statement of compliance

The financial statements have been prepared in accordance with International Public Sector Accounting Standards (IPSAS) and its interpretations adopted by the International Accounting Standards Board (IASB) and the rules of the Network.

##### b. Basis of preparation

The financial statements have been prepared under the historical cost convention except where otherwise stated in the accounting policies below. The financial statements are prepared on an accrual basis. The cashflow statement is prepared using the indirect method. The accounting policies have been consistently applied to all the years presented

The financial statements are presented in US dollars (US\$), which is the company's functional and presentational currency.

#### 3 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The principal accounting policies adopted in the preparation of these financial statements are set out below:

##### a. Use of estimates and judgement

The preparation of financial statements in conformity with IPSAS requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

Key estimates management has made in preparing the financial statements concerns the lives of intangible assets and property, plant and equipment which are at least that set out in the relevant notes

### 3 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES – CONT'D

#### b. Foreign currency translation

##### *Functional and presentation currency*

The financial statements are presented in United States Dollars which is the functional currency.

##### *Transactions and balances*

Transactions during the year in currencies other than the reporting currency are converted into United States Dollars at the approximate rates of exchange prevailing at the date of the transactions. Monetary assets and liabilities denominated in currencies other than US\$ at the reporting date are translated into US Dollars at the rates of exchange ruling as at that date. The resulting gains or losses are recognised in the statement of financial performance.

#### c. Intangible asset

Intangible assets are purchased computer software that is stated at cost less accumulated depreciation and any accumulated impairment losses. It is amortised over its estimated life of 3 years using the straight-line method. If there is an indication that there has been a significant change in amortisation rate, useful life or residual value of an intangible asset, the amortisation is revised prospectively to reflect the new expectations.

#### d. Property, plant and equipment

Items of property, plant and equipment are stated at cost less accumulated depreciation and any accumulated impairment losses. Costs includes expenditure that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

The cost of replacing part of an item of property, plant or equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the company and its cost can be measured reliably. The costs of day-to-day maintenance, repair and servicing expenditures incurred on property and equipment are recognised in profit or loss.

Depreciation is charged so as to allocate the cost of assets less their residual values over their estimated useful lives, using the straight-line method. No depreciation is charged in the year of disposal. The annual rates generally in use for the current and comparative periods are as follows

|                        |        |
|------------------------|--------|
| Computers              | 33.33% |
| Furniture and fittings | 20%    |
| Office equipment       | 20%    |
| Motor vehicles         | 25%    |

Depreciation on additions to property, plant and equipment is charged on pro-rata basis from date of assets purchase or becomes ready for use.

If there is an indication that there has been a significant change in depreciation rate, useful life or residual value of an asset, the depreciation of that asset is revised prospectively to reflect the new expectations.

Gains and losses on disposal of property, plant and equipment are determined by comparing proceeds from disposal with the carrying amounts of property, plant and equipment and are recognised in profit or loss as other income

### 3 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES – CONT'D

#### e. Cash and cash equivalents

INDEPTH Network's cash and cash equivalents comprise cash on hand and cash at bank, deposits on call and highly liquid investments with an original maturity of 3 months or less, which are readily convertible to known amounts of cash and are subject to insignificant risk of changes in value.

#### f. Receivables from exchange and non-exchange transactions

Accounts receivable represent receivables from exchange transactions and recoverable from non-exchange transactions.

##### *Recoverable from non-exchange transactions*

Salary advances/staff loans outstanding as at the end of the reporting period are treated as receivables in the statement of financial position.

Receivables/recoverable are recorded at their estimated realizable value after providing for doubtful and uncollectible debts.

#### g. Payables

Payables are recognized initially at fair value and subsequently measured at amortised cost using the effective interest method.

#### h. Revenue

Revenue arises from non-exchange transactions such as grants from various institutional donors. Grants represent cash remittances from institutional donors. Income is recognised when funds are transmitted and received except for specific grant income which may be recognised on accrual or other basis due to the terms and conditions of the grant agreement. Such grants are reviewed on a case by case basis and income recognised based on their terms and conditions.

#### i. Expenditure

Network expenditure is recognised on accrual basis.

#### j. Leases

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases such as rentals are charged to the statement of financial performance on a straight-line basis over the period of the lease. INDEPTH Network does not have any finance leases.

#### k. Employee benefits

INDEPTH Network has defined contribution plans. A defined contribution plan is a pension plan under which the entity pays fixed contributions into a separate entity and has no legal or constructive obligations to pay further contributions. Obligations for contributions to defined contribution schemes are recognised as an expense in profit or loss in periods during which services are rendered by employees.

#### l. Events after the reporting period

Events subsequent to the reporting date are reflected in the financial statements only to the extent that they relate to the year under consideration and the effect is material.

### 3 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES – CONT'D

#### m. Financial instruments

INDEPTH Network seeks to minimise its exposure to financial risk. It uses only non-derivative financial instruments as part of its normal operations. These financial instruments include bank accounts, certificates of deposit, accounts receivable and accounts payable.

All financial instruments are recognised in the statement of financial position at their fair values.

### 4 NOTES TO THE STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

#### a. Basis of Preparation

The budget information has been prepared on a cash basis since it is the policy of INDEPTH to apply the cash basis of accounting for its budgets during the fiscal year. The financial statements however, are prepared on an accrual basis of accounting. The accrual basis of accounting is one under which transactions, other events and conditions are recognised when they occur (and not only when cash or its equivalent is received or paid). Therefore, the concept recognizes revenue when earned and expenses when incurred.

#### b. Key assumptions include:

- Networking available throughout the periods
- Donors interest in sponsoring specific site activities

#### c. Budget approval

The INDEPTH Network is a non-profit public international institution registered in accordance with the Companies Act 1963 (Act 179) and regulations governing NGOs in Ghana.

INDEPTH Network is governed by the General Assembly whose functions and power among others include: "to approve and ratify agreements, contracts, policies, programmes, new members, protocols, by-laws, budgets, financial statements, audit reports and election of Board Members".

The functioning of the Network is entrusted to an elected Board of Trustees whose functions include:

"Recommend for approval or ratification by the General Assembly, policies, programmes, budgets, financial statements, audit reports, agreements and contract". The Board of Trustees also reviews, approves and establishes the annual plan of work while the Secretariat (through its Executive Director) drafts an annual work plan and associated budget and report on progress made to the Board of Trustees and as appropriate to the General Assembly during the Annual General Meeting.

The approval of the Budget by the General Assembly (through the Board of Trustees) empowers the Secretariat (through the Executive Director), subject to any special conditions to:

- Commit and authorises expenditure and to make all payments to be borne by the Organisation, for the purposes assigned and within the limits of the appropriations and the commitment authority, as the case may be;
- Ensure approval is obtained from Board for any activity outside the network; and
- Provide the Board with quarterly budget and variance for review and approval.

**4 NOTES TO THE STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS – CONT'D**

**d. Comparison of budget and actual on a high level and also at the level of projects**

**Introduction**

INDEPTH Network entity wide financial statements are on an accrual basis whilst the project specific reporting is on cash basis. The budget for the entity is usually linked to specific projects which are implemented by sub-grantees. The Statement of Financial position, Statements of Financial Performance, Statements of Changes in Nets Assets and Statements of Cash Flow are prepared on a full accrual basis. INDEPTH Network budget and entity-wide financial statements are therefore prepared using different bases.

To enable users and Networkers to derive the needed benefit and make this presentation useful, management has decided to present the comparison by project which is on a cash basis. This form of presentation as indicated is to ensure management achieves the reporting requirement of IPSAS 24 and also meets the needs of stakeholders within the Network for effective decision making.

The approved budget for each of the projects outlined below covers the fiscal period 1 January to 31 December 2016 and includes all sub-grantees implementing the projects across the 52 sites in Africa, Asia and Oceania.

**e. Explanations of key deviations**

- i. Bill and Melinda Gates - INESS Project: This Project ended in June 2015. We got approval for no cost extension from Gates Foundation to use funds remaining of \$1,182,415 for a new anti-Malarial drug (Pyramax) study. The protocol has been discussed and the study has started in Nanoro HDSS in Burkina Faso. The Project will end in December 2017.
- ii. NIH Wits Consortium: Awi-gen Project: This Project is conducted on Pre-financing basis. We received funds in December 2016 which has been fully disbursed to the implementing Centres in January 2017.
- iii. Bill and Melinda Gates – IHOPE Project: This is a 3 year research study on out of pocket expenses on health which started in November 2014. The project received 70% of the funds during the year 2014. The Project Protocols and Instruments have been developed and approved by Project independent SAG Members. Field Work is expected to commence in March 2017. The funds remaining are committed funds for Project activities in 2017.

**5 DONOR GRANTS – SECRETARIAT CORE ACTIVITIES**

|                                | <b>2016</b>      | <b>2015</b>      |
|--------------------------------|------------------|------------------|
|                                | <b>US\$</b>      | <b>US\$</b>      |
| SIDA/Research Cooperation Unit | 1,590,924        | 1,196,087        |
| Hewlett Foundation- Core       | 549,973          | 500,000          |
| Wellcome Trust Core            | -                | -42,395          |
|                                | <u>2,140,897</u> | <u>1,738,482</u> |

**6 DONOR GRANTS – PROGRAMME ACTIVITIES**

|  | <b>2016</b>      | <b>2015</b>      |
|--|------------------|------------------|
|  | <b>US\$</b>      | <b>US\$</b>      |
| University of Kwazulu Natal                        | 381,988          | 227,042          |
| NIH/Wits Health Consortium – Awi-gen Project       | 186,541          | 313,946          |
| Population council - Evidence Project              | 33,862           | 77,877           |
| SSI/DANIDA – Vaccination and Child Health          | 27,611           | 11,809           |
| LSHTM – ENAP Project                               | 249,379          | -                |
| Oxford University – Abacus Project                 | 247,095          | -                |
| IHME Ebola Meeting                                 | 95,628           | -                |
| GSK  | 24,676           | -                |
| Chatham House Roundtable Meeting                   | 15,562           | -                |
| Nutri-Scope Postdam Proposal                       | 13,561           | -                |
| University of Aberdeen                             | 11,507           | -                |
| Global Alliance for Vaccines & Immunization - GAVI | -                | 160,092          |
| Save the Children – Newborn                        | -                | 34,732           |
|  | <u>1,287,410</u> | <u>825,498</u>   |
| Net change in deferred grant ( <i>Note 30</i> )    | 102,595          | 2,742,195        |
|  | <u>1,390,005</u> | <u>3,567,693</u> |

**7 OTHER REVENUE**

|               |               |               |
|---------------|---------------|---------------|
| Sundry income | <u>18,635</u> | <u>47,017</u> |
|---------------|---------------|---------------|

**8 GOVERNANCE MEETING EXPENSES**

|                  |                |                |
|------------------|----------------|----------------|
| INDEPTH Core     | 127,045        | 164,099        |
| INDEPTH Projects | 14,619         | 11,313         |
|                  | <u>141,664</u> | <u>175,412</u> |

**9 SCIENTIFIC WORKSHOPS AND COORDINATION EXPENSES**

|                  |                  |                  |
|------------------|------------------|------------------|
| INDEPTH Core     | 465,914          | 1,222,067        |
| INDEPTH Projects | 814,864          | 942,855          |
|                  | <u>1,280,778</u> | <u>2,164,922</u> |

**10 CAPACITY STRENGTHENING WORKSHOP EXPENSES**

|                  |                |                |
|------------------|----------------|----------------|
| INDEPTH Core     | 294,606        | 440,747        |
| INDEPTH Projects | 228,327        | 268,114        |
|                  | <u>522,933</u> | <u>708,861</u> |

|           |   |                |                  |
|-----------|---|----------------|------------------|
| <b>11</b> | <b>ANNUAL GENERAL AND SCIENTIFIC MEETINGS</b> |                |                  |
|           |   | <b>2016</b>    | <b>2015</b>      |
|           |   | <b>US\$</b>    | <b>US\$</b>      |
|           | INDEPTH Core                                  | 85,249         | -                |
|           | INDEPTH Projects                              | 37,416         | 257,393          |
|           |   | <u>122,665</u> | <u>257,393</u>   |
| <b>12</b> | <b>SUB GRANTS TO MEMBER CENTRES</b>           |                |                  |
|           | INDEPTH Core                                  | 60,984         | 164,498          |
|           | INDEPTH Projects                              | 534,752        | 1,163,230        |
|           |   | <u>595,736</u> | <u>1,327,728</u> |
| <b>13</b> | <b>GENERAL SECRETARIAT RUNNING COST</b>       |                |                  |
|           | INDEPTH Core                                  | 726,221        | 1,076,200        |
|           | INDEPTH Projects                              | 130,436        | 176,916          |
|           |   | <u>856,657</u> | <u>1,253,116</u> |
|           | *This includes:                               |                |                  |
|           | Audit fees                                    | <u>40,000</u>  | <u>40,000</u>    |
| <b>14</b> | <b>FINANCE INCOME</b>                         |                |                  |
|           | Interest income                               | <u>40,123</u>  | <u>2,883</u>     |
| <b>15</b> | <b>FINANCE EXPENSE</b>                        |                |                  |
|           | Bank charges                                  | <u>63,609</u>  | <u>55,832</u>    |

16 PROPERTY AND EQUIPMENT

|                                 | Computers<br>US\$ | Furniture<br>& fittings<br>US\$ | Office<br>Equipment<br>US\$ | Motor<br>Vehicles<br>US\$ | Total<br>US\$  |
|---------------------------------|-------------------|---------------------------------|-----------------------------|---------------------------|----------------|
| <b>2016</b>                     |                   |                                 |                             |                           |                |
| <b>Cost</b>                     |                   |                                 |                             |                           |                |
| At 1 January                    | 104,696           | 7,913                           | 101,441                     | 56,060                    | 270,110        |
| Additions                       | 2,405             | -                               | 1,007                       | -                         | 3,412          |
| At 31 December                  | <u>107,101</u>    | <u>7,913</u>                    | <u>102,448</u>              | <u>56,060</u>             | <u>273,522</u> |
| <b>Accumulated depreciation</b> |                   |                                 |                             |                           |                |
| At 1 January                    | 93,939            | 6,005                           | 66,164                      | 49,059                    | 215,167        |
| Charge for the year             | 3,499             | 715                             | 10,382                      | 7,001                     | 21,597         |
| At 31 December                  | <u>97,438</u>     | <u>6,720</u>                    | <u>76,546</u>               | <u>56,060</u>             | <u>236,764</u> |
| <b>Net carrying amounts</b>     |                   |                                 |                             |                           |                |
| At 31/12/16                     | <u>9,663</u>      | <u>1,193</u>                    | <u>25,902</u>               | <u>-</u>                  | <u>36,758</u>  |
| <b>2015</b>                     |                   |                                 |                             |                           |                |
| <b>Cost</b>                     |                   |                                 |                             |                           |                |
| At 1 January                    | 104,696           | 6,834                           | 98,789                      | 56,060                    | 266,379        |
| Additions                       | -                 | 1,079                           | 37,140                      | -                         | 38,219         |
| Disposals                       | -                 | -                               | (34,488)                    | -                         | (34,488)       |
| At 31 December                  | <u>104,696</u>    | <u>7,913</u>                    | <u>101,441</u>              | <u>56,060</u>             | <u>270,110</u> |
| <b>Accumulated depreciation</b> |                   |                                 |                             |                           |                |
| At 1 January                    | 88,946            | 4,978                           | 83,279                      | 42,058                    | 219,261        |
| Charge for the year             | 4,993             | 1,027                           | 10,403                      | 7,001                     | 23,424         |
| Release on disposals            | -                 | -                               | (27,518)                    | -                         | (27,518)       |
| At 31 December                  | <u>93,939</u>     | <u>6,005</u>                    | <u>66,164</u>               | <u>49,059</u>             | <u>215,167</u> |
| <b>Net carrying amounts</b>     |                   |                                 |                             |                           |                |
| At 31/12/15                     | <u>10,757</u>     | <u>1,908</u>                    | <u>35,277</u>               | <u>7,001</u>              | <u>54,943</u>  |



**16 PROPERTY AND EQUIPMENT - CONT'D****(b) Disposal/write off Property and Equipment**

|                          | <b>2016</b> | <b>2015</b>  |
|--------------------------|-------------|--------------|
|                          | <b>US\$</b> | <b>US\$</b>  |
| Cost of assets           | -           | 34,488       |
| Accumulated depreciation | -           | (27,518)     |
| Net book value           | -           | <u>6,970</u> |
| Proceeds                 | -           | 4,500        |
| Loss on disposal         | -           | <u>2,470</u> |

**17 CASH AND CASH EQUIVALENTS**

|              |                |                  |
|--------------|----------------|------------------|
| Cash at bank | 951,674        | 2,245,199        |
| Cash in hand | 28,657         | 36,175           |
|              | <u>980,331</u> | <u>2,281,374</u> |

**18 LONG TERM INVESTMENTS**

This is an investment of the endowment fund of the organisation in a 365-day fixed deposit with HFC Bank (Ghana) Limited.

**19 RECOVERABLE FROM NON-EXCHANGE TRANSACTIONS**

|                                      | <b>2016</b>      | <b>2015</b>    |
|--------------------------------------|------------------|----------------|
|                                      | <b>US\$</b>      | <b>US\$</b>    |
| INDEPTH Core ***                     | 1,049,305        | 238,582        |
| Donors - University of Kwazulu Natal | 100,365          | -              |
|                                      | <u>1,149,670</u> | <u>238,582</u> |

\*\*\* These are receivables from Grant Partners.

**20 RECEIVABLES FROM EXCHANGE TRANSACTIONS**

This comprises advances given to staff which were outstanding as at the end of the period. Included in this amount is interest receivable of for the long term investment.

**21 PREPAYMENT**

INDEPTH Network rents office space in Accra, under tenancy agreements which terminate in March 2017. Included in the tenancy agreement is a requirement to pay the landlord in advance for the entire period, which is expensed annually on a pro-rata basis.

## 22 ACCRUED EXPENSES AND PAYABLES

|                         | 2016<br>US\$   | 2015<br>US\$   |
|-------------------------|----------------|----------------|
| <u>Accrued expenses</u> |                |                |
| Auditor's remuneration  | 40,000         | 40,000         |
| Other accrued expenses  | 83,000         | 380,731        |
|                         | <u>123,000</u> | <u>420,731</u> |

## 23 ENDOWMENT FUND

The endowment fund was set up in 2013 as a non-distributable reserve to broaden and stabilize the financial base of the Network.

The fund has been invested in a 365-day fixed deposit with HFC Bank (Ghana) Limited. The Network will continue with the endowment fund through the support of donor agencies and corporations within and outside Africa.

## 24 FINANCIAL INSTRUMENTS

All financial instruments to which INDEPTH Network is a party are recognized in the financial statements.

### Credit risk

In the normal course of business, INDEPTH Network incurs credit risk from accounts receivable and transactions with banking institutions. INDEPTH Network manages its exposure to credit risk by:

- Holding bank balances and short-term deposits (demand deposits) with Ghanaian and United States-registered banking institutions; and
- Maintaining credit control procedures over accounts receivable.

As at 31 December 2016, the total amount of cash and cash equivalents was US\$980,331 (2015: US\$3,670,897). Out of this amount, US\$720,058 representing 73% of cash and cash equivalents was held with UBS International in the United States in the form of demand deposits, whilst the remaining amount of US\$ 260,273 representing 27% was held with reputable banks in Ghana listed on page 1 of this report. Recoverable from non-exchange transaction, receivable from exchange transactions and prepayments as at 31 December 2016 totalled US\$1,244,908 (2015: US\$329,761).

## 24 FINANCIAL INSTRUMENTS - CONT'D

The maximum exposure as at 31 December 2016 was equal to the total amount of bank balances, short-term deposits, and receivables disclosed in the statement of financial position.

INDEPTH Network does not require any collateral or security to support financial instruments and other receivables it holds due to low risk associated with the realization of these instruments.

### Foreign currency exchange rate risk

INDEPTH Network operates separate bank accounts in Euro and Ghana Cedi. INDEPTH Network incurs currency risk as a result of the conversion of foreign currency balances held in these bank accounts to United States dollars at period end. The currency risk associated with this balance is considered minimal and therefore INDEPTH Network does not hedge its foreign currency exposure.

Foreign currency transactions are translated to United States dollars at exchange rates at the dates of the transactions.

### Fair values

As at 31 December 2016, the carrying amounts approximate the fair values for all financial instruments held by INDEPTH Network.

## 25 EMPLOYEE BENEFITS

### a) Staff costs

The total staff costs for the period under review amounted to US\$1,100,407 (2015: US\$1,349,282). This cost has been allocated under the following expenditure lines: Scientific workshops and coordination, Capacity strengthening workshops and General secretariat running costs.

### b) Social Security Contributions

Under the National Pension Scheme, the INDEPTH Network contributes 13% of employee's basic salary to the Social Security and National Insurance Trust (SSNIT) for employee pensions. The company's obligation is limited to the relevant contributions, which were settled on the due dates. The pension liability and obligations rest with SSNIT.

### c) Provident Fund

INDEPTH Network has a provident Network scheme for staff under which it contributes 10% of staff basic salary. INDEPTH Network obligation under the plan is limited to the relevant contributions and these are settled on due dates to an independent Fund manager.

## 26 RELATED PARTY TRANSACTIONS

INDEPTH Network is governed by the Board of Trustees whose members are entitled to payment of honoraria and other travel related expenses when participating in INDEPTH Network meetings or any other INDEPTH business. The list of trustees during the year under review is shown on page 1 of this report.

Except for the Executive Director, who is remunerated by the organisation, no other board member received any remuneration or loans other than the entitlements indicated above during the year under review. For the year under review, the Executive Director's total emoluments were US\$213,104 (2015: US\$198,844).

## 26 RELATED PARTY TRANSACTIONS – CONT'D

### Key management staff

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Company directly or indirectly including any Director (whether executive or otherwise) of the Company.

Key management personnel compensation included the following:

|                     | 2016<br>US\$   | 2015<br>US\$   |
|---------------------|----------------|----------------|
| Short term benefits | <u>283,731</u> | <u>322,386</u> |

## 27 COMMITMENTS

There were no commitments for capital expenditure in the financial statements at the reporting date and at 31 December 2015.

## 28 CONTINGENT LIABILITIES

There were no contingent liabilities at the reporting date and at 31 December 2015.

## 29 EVENTS AFTER THE REPORTING DATE

Events subsequent to the reporting date are reflected only to the extent that they relate to the financial statements and the effect is material

## 30 NET MOVEMENTS IN COMMITTED FUNDS DEFERRED

|   | Committed<br>Grants<br>Deferred at 1<br>January 2016 | Committed<br>Grants<br>Deferred at 31<br>December 2016 | Net change in<br>Committed<br>Grants for the<br>year |
|---|--|--|--|
|   | US\$   | US\$   | US\$   |
| <b>Non-Core Activities</b>                        |  |  |  |
| Bill and Melinda Gates Foundation -INESS          | 1,182,415  | 1,182,415  | -  |
| Bill and Melinda Gates Foundation – iHOPE Project | 454,024  | 130,621  | 323,403  |
| LSHTM - ENAP Project                              | -  | 102,374  | (102,374)  |
| Oxford University - Abacus Project                | -  | 118,434  | (118,434)  |
| <b>Total</b>                                      | <b>1,636,439</b>                                     | <b>1,533,844</b>                                       | <b>102,595</b>                                       |

Deferred grants represent the best estimate of the amount required to settle the present obligation for on-going programmes which had not been completed as at the end of the year.