THE ROCKEFELLER FOUNDATION

FINAL EVALUATION

Disease Surveillance Networks Initiative
Africa

February 2011

Swiss TPH

APHRC
African Population and
Health Research Center

Final Evaluation
of the
Rockefeller Foundation's
Disease Surveillance Networks Initiative
in Africa

February 2011

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(please request it at: RFevaluation@rockfound.org):*

ACRONYMS

ADB	African Development Bank
AHEAD-GLTCA	Animal & Human Health for the Environment and Development— Great Limpopo Transfrontier Conservation Area
AI	Avian Influenza
APHRC	African Population and Health Research Center
CDC	Centers for Disease Control and Prevention
CHORDS	Connecting Health Organizations for Regional Disease Surveillance
DRC	Democratic Republic of Congo
DSN	Disease Surveillance Networks
EAC	East African Community
EAIDSNet	East African Integrated Disease Surveillance Network
ECTAD	Emergency Centre for Transboundary Animal Diseases
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
FMD	Foot-and-Mouth Disease
GPS	Global Positioning System
HEMP	Health Emergency Management Project
HMIS	Health Management Information System
ICT	Information and Communication Technologies
ILRI	International Livestock Research Institute
MBDS	Mekong Basin Disease Surveillance
MoH	Ministry of Health
NIMR	National Institute for Medical Research (Tanzania)
OIE	World Organization for Animal Health
PENAPH	Participatory Epidemiology Network for Animal and Human Health
PI	Principal Investigator
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
RVF	Rift Valley fever
SADC	Southern African Development Community
SACIDS	Southern African Centre for Infectious Disease Surveillance
Swiss TPH	Swiss Tropical and Public Health Institute
SUA	Sokoine University of Agriculture
TAWIRI	Tanzania Wildlife Research Institute
WHO	World Health Organization

Executive Summary

Relevance

Functioning disease surveillance networks contribute to reduce the socio-economic impact caused by epidemics. Once national governments and partners involved adhere to policies and strategies to contain epidemics and disease threats, strengthening of surveillance-response networks becomes an option and effectively contributes to improving health systems. The Disease Surveillance Networks (DSN) Initiative in Africa builds on existing national, regional and global initiatives, with the inclusion of wildlife health as a contextual adaptation.

Niche

The Rockefeller Foundation is unique among funding institutions in its support for development of DSN globally. Supporting the institutionalization of disease surveillance networks is seen as a potential core area for the Foundation because of its long-term experience in funding DSN. The investment in disease surveillance is of benefit not only for Africa, but also globally. The Foundation is free to invest in areas it recognizes as important because experts are empowered to carry out the practical work without operational interference. Grantees appreciate having a "working partner" relationship with an "honest broker," rather than an "expert/trainee" relationship. The Foundation clearly has a niche and comparative advantage in public health and health systems research with an emphasis on societal and ecological determinants of health, including One Health (i.e., connections between animal health, human health and environmental health). Through its global engagement, the Foundation harbors the potential to enhance its output through networking between continents.

Effectiveness

Capacity building in disease surveillance and in One Health has been increased at the community, district, and national levels, but less progress has been made institutionally. Grantees feel that their techniques have been well accepted. Inter-sector and cross-boundary collaborations are innovative but still in the initial phases and requiring more formal approaches to develop. These collaborations should increase as open questions on ownership, management and sharing of national data as well as the roles of local experts are clarified. New information and communication technologies (ICT) have improved communication within the health management information system (HMIS). Some computer servers were relocated to African countries resulting in increased local ownership. Policy influence is taking place but seems limited to individuals and would need a conceptual framework. Users of DSN

are communities, livestock holders and traders, as well as professional organizations, private veterinarians and physicians, and all levels of governmental health systems and international agencies. Uses of DSN are improved capacity in disease surveillance, increased collaboration between sectors, accelerated detection of disease, enhanced communication and faster response. Research capacity has been built at postdoctoral, Ph.D. and master's degree of science (MSc) levels.

One Health

The Rockefeller Foundation can be considered the world-leading grantmaker for One Health. Perhaps this results from an open culture of breaking silos between disciplines towards a united approach of professionals working together. Grantees agree that there has been an increase in One Health capacity building in academia and governments, and an increase in transdisciplinary and One Health leadership resulting from grant activities. However, actual change towards closer integration at the government level happens more often under the pressure of outbreaks. One of the challenges in advocating the One Health concept in communities is the process of translation into local languages. The added value of the One Health approach is a joint use of synergies in infrastructure, capacity building, resources (human and financial), and interventions between public health and animal health sectors. At this stage most of these actions are not yet formalized. One Health as a concept is not specified in written documentation. No reference to published concept papers could be found. Interviewees gave rather operational definitions and there was not yet a clear strategy to delineate and guide activities.

Sustainability

There is increased awareness that sustainability of DSN depends on ownership of national capacity and strengthened national institutions. There is good interaction with governmental agencies, and policy dialogue has occurred, but this is a slow process in East Africa. The nexus between projects and governments is still weak.

Impact

Improved effectiveness of DSN in addressing specific disease threats can be summarized mainly through increased awareness and better communication. Cross-border collaboration has increased and the surveillance function has been strengthened, but this is still at an early stage. It is difficult to assess measurable impact on population health for this reason.

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Efficiency

Grantees agreed that feedback to communities, authorities and stakeholders is very important. There is growing awareness at governmental and academic levels that communities should be more actively involved in the planning and implementation of projects. Monitoring and evaluation practices within grants were informal and not well documented. This seemed not to be a focus of the initiative. Little scientific documentation and publication was observed to date. Not all projects are highly scientific, but most could publish their experiences. Resources were considered adequate for project goals and capacity building. Foundation management support was perceived as responsive and not bureaucratic. Grantees valued the opportunities the Foundation provided for them to interact with each other.

Conclusion

The Rockefeller Foundation is a leading institution in fostering DSN and One Health in Africa and worldwide. The DSN Initiative in Africa has improved capacity in disease surveillance, facilitated a change of attitude between sectors, accelerated the detection of human and animal disease, and enhanced communication and response. Research capacity has been built at postdoctoral, Ph.D. and MSc levels. Capacity building in disease surveillance and One Health has been increased at all levels.

Disease surveillance networks require future support and should not be phased out at the current stage. National surveillance capacity and political support appear weaker than in the Mekong region and require prolonged engagement towards sustainability. Communication between sectors has increased, but is limited to individuals. Cross-border collaboration is at an early stage and not sufficiently formalized.

There is little scientific publication in the international literature and the visibility of the Foundation is rather low with regard to its investment. The Foundation follows a flexible grant selection strategy, allowing for grant applicants and authorities to contribute to shaping the initiative.

■ Executive Summary

Recommendations

The Rockefeller Foundation is probably the most important donor in One Health worldwide. Despite improved surveillance in the Africa DSN, response capacity remains weak. Africa is endemic for emerging diseases, but the whole world is also at risk through globalization. We recommend prolonging the current DSN Initiative in Africa to achieve sustainable DSN.

Current grants are small and insufficient to sustain regional or Africa-wide initiatives. We recommend that the Foundation examine options for continued support of the most successful projects.

The Foundation should encourage grantees to broaden dissemination of best practices, which will stimulate policy dialogue. We recommend a clear expectation of scientific documentation through publication and increased reference to the Foundation to enhance its visibility.

Future Core Areas of the Rockefeller Foundation and Leadership

The Rockefeller Foundation has a highly credible One Health engagement and should conceptually strengthen ecosystems approaches to health. The Foundation could take leadership in integrated development research through stronger interconnections in its overall program. For example, well-established competence and experience in the Foundation should address the rapidly growing food security crisis through integrated agriculture-health, One Health and ecosystem-health approaches. Other United States institutions are not viewed as having such resources. The closest conceptual "competitor" is the International Development Research Centre (IDRC) in Ottawa.

The Foundation should support national governments in developing adapted legislation for the institutionalization and academic curriculum revision to build and sustain capacity in One Health which has a huge untapped potential. We are just at the beginning of capitalizing on added value of closer cooperation between human and animal health sectors. The Foundation is certainly the leading grantmaking institution in shaping this and its position is challenged only by the Wellcome Trust.

1. Introduction

1.1 Rockefeller Foundation Disease Surveillance Networks Initiative

Disease surveillance encompasses disease outbreak investigation in addition to establishing and evaluating programs for prevention and control. The Foundation is a networking pioneer, supporting network development since 1993.[1]

The overall objective of the Foundation's Disease Surveillance Networks (DSN) Initiative is to strengthen technical capacity at the country level for disease surveillance and to bolster response to outbreaks through the sharing of technical information and expertise.[2] It supports formalizing collaboration, information sharing and best practices among established networks as well as trans-national, interdisciplinary and multi-sectoral efforts, and is experienced in developing and fostering innovative partnerships.[3] In order to more effectively address disease threats, the DSN has four key outcome areas: (1) forming and sustaining trans-boundary DSN; (2) strengthening and applying technical and communication skills by local experts and institutions; (3) increasing access and use of improved tools and methods on information sharing, reporting and monitoring; and (4) emphasizing One Health and transdisciplinary approaches to policy and practice at global, regional and local levels.[4]

The Foundation invested $21.3 million dollars to strengthen and connect DSN.[5][6] It was seen as a facilitator and partner rather than a decision maker, and collaborators were treated as equal working partners. A delineation of possible Foundation exit strategies was communicated in the DSN Initiative Approval document.[7] The longer-term intended focus of the Foundation will be on national and regional surveillance and response systems to increase resilience and access of poor and vulnerable populations and to strengthen cross-border collaboration.[8]

1.2 DSN Initiative in Africa

The DSN Initiative's global and Africa activities had their origin in 1996 in a series of consultative meetings held on the prevention and control of emerging and reemerging diseases at the Foundation in New York, with key players from the Communicable Disease Cluster of the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), the WHO African Regional Office and the Global Health Council. Two project proposals aimed at strengthening surveillance and response capacity were elaborated.

Introduction

Increased interest in disease surveillance in the late 1990s was the stimulus for cooperation between Asian and African countries on different programs for controlling infectious diseases with high epidemic potential. The integrated approach for communicable disease surveillance was adopted by African countries in 1998, and an inter-country cooperation plan was developed. The Foundation's DSN Initiative in Africa was formed nearly 10 years after the 1998 WHO-AFRO integrated disease surveillance agreement and earlier Foundation engagement in the Mekong region. Core concepts, best practices, experiences and methodological strategies and approaches tested in the Mekong region have been adapted and applied to the East and Southern African setting.[9] Africa DSN grants support capacity building (at the academic, governmental and community levels) and the strengthening of cross-border DSN with thematic foci on ICT and One Health. The first African grant was awarded in November 2007, followed by ten subsequent grants in 2008 and 2009.

1.3 Purpose and Objectives of the Evaluation of the DSN Initiative in Africa (terms of reference)

The purposes of the evaluation were learning and accountability:

[1] Learning from the experience of DSN investments in Africa to inform the work and strategy of the Foundation, its grantees and the broader field of disease surveillance. More specifically, the evaluation informs future directions and strategies for current areas of Foundation initiative work, particularly in Africa, as well as highlights potential new areas of work and strategy; and

[2] Accountability to the Board of Trustees, staff and Foundation stakeholders for the DSN funds invested in the DSN Initiative in Africa.

The main objectives of the evaluation were:

[1] To assess the relevance, effectiveness, efficiency, influence and sustainability of the Foundation's support to the work of the Disease Surveillance Networks Initiative in Africa.

[2] To assess the underlying hypothesis of the initiative that robust transboundary, multi sector and cross disciplinary collaborative networks lead to improved disease surveillance and response. Specifically, improved surveillance and response will include assessment of accuracy of information (in person, place, time) as documented by surveillance assessments, or outbreak investigations during the term of the DSN Initiative. The evaluation will not undertake formal disease surveillance system evaluation, but will exploit secondary data sources for such assessment.

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[3] To make forward-looking recommendations to the lead evaluator and to the Foundation on:

> ⇨ *The implications of the achievements, challenges and lessons from the DSN Initiative in Africa for the strategy and work of the Foundation in Africa. This could include lessons for specific fields of work (health, urban, climate, etc.) as well as lessons for initiatives and grantees that aspire to build and sustain networks, build capacity, and influence policy in Africa.*
>
> ⇨ *Priority linkages and synergies for DSN learning to benefit the Foundation's Africa Regional Office, the work of other Foundation initiatives in Africa, and key Foundation partners in Africa.*
>
> ⇨ *Key priorities for funding and partnerships to sustain the gains made by the Foundation in the field of disease surveillance networks in Africa.*

The evaluation also aimed to contribute to the field of philanthropy by demonstrating the use of evaluations in grantmaking, learning and knowledge management, and by informing the field of development evaluation and assessment about methods for assessing complex networks.

1.4 Evaluation Matrix and Evaluation Criteria

The main evaluation criteria and key questions covered in the evaluation and the component studies are detailed in the evaluation matrix (Annex 1). The matrix used in the Africa evaluation was adapted from the matrix used in the Mekong region, together with the Global Evaluation Team, during an inception meeting held in Nairobi in August 2010. The Africa matrix was also harmonized with the global matrix by relating respective question codes. Adaptation involved consideration of the outputs of selected grants. The main evaluation questions are outlined in the following sections.

1.4.1 Relevance

Relevance includes rationale, niche, role, comparative advantage and value added of the Africa initiative. Questions related to the extent of relevance of the initiative to: (1) state-of-the-art/leading-edge thinking and trends in disease surveillance and response; (2) areas of work of the Foundation in Africa; (3) stakeholders in the region; (4) occupation of a niche and leadership role; and (5) comparative advantage in disease surveillance in East and Southern Africa.

1.4.2   Effectiveness

A substantial part of the evaluation questions referred to "effectiveness," assessing the results of the initiative in Africa. This includes analysis of the products and services planned and provided, changes or outcomes that have occurred, and the impact the initiative has had on people and systems in Africa.

The evaluation explored (1) the Africa strategy of the DSN Initiative and its relation to the overall Foundation strategy; (2) the contribution of individual grants to the overall DSN strategy; (3) the degree of achievement of the overall DSN Initiative's objectives and purposes within the Africa component (improvement of human resources in disease surveillance, fostering of regional networks and collaboration, and bridges between regional and global monitoring efforts); (4) the outputs and quality of the selected grants; (5) the major outcomes of the DSN Initiative's work in Africa and its contribution to transboundary DSN; (6) the evolution of individual-to-regional and scientific capacity building; (7) the innovations in ICT tools and methods; (8) the increase in transdisciplinary One Health leadership; and (9) the contribution of the DSN Initiative to policy influence.

1.4.3   Sustainability

Sustainability looked at the extent to which the DSN Initiative can develop both financial and/or institutional supports to continue the work started in Africa. Questions referred to evidence that the results of the African grant portfolio activities will be financially and institutionally sustainable: (1) coordination of grants with national and regional strategies; (2) continuous partnering in activities with other country institutions (universities, NGOs, and governments); (3) reflection of the One Health priority in governance structures; (4) consideration of strategies for sustaining long-term change (partnerships); (5) engagement and motivation to sustain the work; and (6) the exit strategy and the contribution of the Foundation to leverage resources and support from other donors.

1.4.4   Impact

The impact section considered the contribution of the DSN Initiative to evidence of influence on the lives and health of people. Indications were (1) the reduction of morbidity or mortality in humans, livestock or wildlife; (2) increased fertility in animals; (3) enhanced surveillance function (early detection, investigation or control of outbreaks); and (4) cross-border collaboration. Impact also related to changed behaviors that have a high probability for improving lives when sustained.

1.4.5 Efficiency

This area investigated the use of resources to obtain results. To what extent did the Foundation use best management, leadership and governance practices? Were those practices cost-effective? Were monitoring, learning and adaptation incorporated into the initiative? Were risk management approaches considered?

Efficiency also examined (1) the "catalytic effect" of Foundation resources; (2) the alignment of funds and time to outputs/outcomes; (3) development of and capacity to work with others; (4) the leveraging of resources for individual countries; (5) the exchange of information; and (6) process efficiency.

2. Evaluation Methodology

2.1 Evaluation Components

The evaluation of the DSN Initiative in Africa was composed of three parts. The first was a portfolio review related to the evaluation criteria with available documents of the selected grants. The second was a site visit (three-country study) based on the portfolio analysis and was conducted to interview staff at the Foundation's Africa Regional Office in Nairobi, plus grantees, stakeholders and other actors involved in DSN. (This allowed for confirmation of the desk analysis and collection of complementary information.) The third, based on the portfolio review and the site visit, was a One Health analysis done to assess the extent of One Health in the grants and to contribute to the One Health landscaping to inform the Foundation's future strategic position.

2.2 Grant Selection and Portfolio Review
2.2.1 Grant Selection Procedure

The Africa DSN evaluation grant basket included a total of 11 grants. A purposive consensual sampling from the grant list was done by the Africa Evaluation Team together with the Global Evaluation Team during the inception meeting. Grants with duration of activity allowing for maturity were more complete and thus preferred for evaluation. Grants made in 2009 or later had lower selection priority. In addition, the animal and human health sector proportion balance was considered. The selection of grants was made representative to the aims of the DSN Initiative which may have caused a slight bias toward positive outcomes to the overall DSN strategy. A participatory epidemiology grant was selected because it, unlike most, involved civil society. One Health as an important focus of the evaluation influenced the choice toward those addressing One Health. The grant to the Wildlife Conservation Society, considered as already examined during the global evaluation, was reviewed through portfolio analysis by the Africa team.

2.2.2 Selected Grants

Selected were six Foundation grants implemented in Africa in 2007 and 2008. The seventh, initiated in early 2009, was related to an existing grant.

Kenya
[1] 2008 DSN 303, International Livestock Research Institute (ILRI) Participatory Epidemiology

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Uganda

[2] 2008 DSN 307, Regional Universities Forum for Capacity Building in Agriculture, Trans-boundary Animal Diseases

[3] 2008 DSN 308, Makerere University School of Public Health, Uganda, Public Health Training

Tanzania

[4] 2008 DSN 310, Sokoine University of Agriculture (SUA), Morogoro, One Health disease surveillance

[5] 2009 DSN 305, SUA, Morogoro, Mobile Technologies, One Health

[6] 2008 DSN 312, East African Community (EAC), Arusha, Cross-border human and animal disease prevention

Southern Africa

[7] 2007 PAN 210, Wildlife Conservation Society, New York

2.3 Site Visit: Three-country Study
2.3.1 Objectives

The three-country site visit in Kenya, Tanzania and Uganda was planned for conducting in-depth interviews with the Foundation's Africa Regional Office, principal investigators (PIs) and stakeholders. Additionally, it served to complete the collection of source documents for the portfolio review.

Specific objectives were:

[1] To assess the relevance, effectiveness, efficiency, impact, degree of influence and sustainability of the grants received by institutions in Kenya, Tanzania and Uganda.

[2] To determine how the DSN grants in a single country have affected the disease surveillance systems in the other study countries.

[3] To determine the perception of the grantees, stakeholders and other actors in disease surveillance on the role and niche of the Foundation in disease surveillance in Africa.

[4] To complement the desk review with interviews on questions that could not be answered by the desk analysis.

2.3.2 Country Selection

Based on the criteria for selection of grants, the Africa DSN Initiative evaluation focused on an in-depth study of three countries in the region: Kenya, Tanzania and Uganda. Rationales for the countries selected were:

▸ DSN grants in these three countries were received and were either closed or were well advanced in activity to allow for assessment of project outcomes.

▸ Kenya, Tanzania and Uganda were all direct recipients of most DSN grants.

▸ Kenya was the major regional country, hosting a large number of regional and international organizations involved in disease surveillance.

▸ Kenya shares borders with Tanzania and Uganda, including part of Lake Victoria, a transportation route between the three countries.

▸ Nairobi, the capital of Kenya, is the location of the Rockefeller Foundation's Africa Regional Office.

▸ The choice of the three countries allowed for verification of cross-border collaboration in disease surveillance.

2.3.3 Stakeholder Identification

An initial stakeholder map was created during the inception meeting. This was expanded using a three-pronged approach:

[1] Grant holders were asked to identify key stakeholders.

[2] Stakeholders were identified from the desktop portfolio analysis.

[3] Additional key persons were proposed by grantees and stakeholders during the interviews. These additional persons were spontaneously interviewed when possible.

Stakeholders and key persons were ultimately selected according to their availability around the site visit schedule.

2.3.4 Design and Pre-testing of Interview and Focus Group Discussion Guides

The interview guides were developed by team members from the APHRC and Swiss TPH during a workshop conducted at Swiss TPH. Two separate interview guides (Annex 3) were designed, one for the Foundation's Africa Regional Office in Nairobi and a second for PIs and stakeholders. Interview questions were derived from the evaluation matrix (Annex 1). A few questions about the future of DSN in Africa, posed by the Global Evaluation Team, were included. Interview guides for each grantee were completed with any specific questions that emerged during the portfolio analysis of their grant. The guide for grantees and stakeholders covered an introduction section explaining the purpose of the evaluation, the reason why the person was selected, and the estimated interview time. The query sections started with two questions asking the grantee to provide a short summary of the project, the project objectives and what was achieved, and highlights and challenges

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encountered. The next questions were summarized from the matrix and stratified into six core sections concerning (1) general questions on the effectiveness of the Africa DSN Initiative; (2) grant-specific networks, partnerships and capacity-building; (3) ICT within the grant; (4) effectiveness and sustainability of grant-specific outcomes; (5) efficiency within the grant project and the Foundation; and (6) One Health. The final part of the questionnaire included an outlook on the future of DSN in Africa. An internal pre-test with two hypothetical stakeholders was conducted during the workshop and the guide was amended based on inputs. Guides for focus group discussions (FGDs) were adapted by the team from the "standard interview guide" in advance if possible or ad hoc when necessary.

The following protocol was used for interviews:

▶ The Foundation's Africa Regional Office staff and grantees were asked a maximum or the full range of questions from the guide, depending on their time availability.
▶ For stakeholder interviews, core areas of stakeholder expertise were identified in advance and questions from the guide were prioritized, adapting them for clarity when necessary.
▶ A guide for FGDs was developed based on areas of expertise of the participants.
▶ During interviews, tasks of the team were shared. The interviewer led through the questions, the other team member(s) recorded the conversation, took notes and assisted when clarification was needed.
▶ For some interviews, the team was split. Teams were composed of (1) at least one person with experience in interviewing, and (2) one team member from APHRC and one from Swiss TPH.
▶ Before each interview, permission to record the conversation was granted.

2.3.5   Field Visits: Interviews, Focus Group Discussions and Site Visits

Field visits to the three selected countries enabled the evaluation team to conduct interviews and FGDs with PIs and stakeholders, to gather relevant source documents for the grant portfolio review, and to observe work practices at the sites (health districts and facilities) and utilization of ICT tools. The field team was composed of Swiss TPH and APHRC members of the Africa Evaluation Team. A profile of the field visits is provided in Annex 2. The field visits started in Nairobi, Kenya with a briefing meeting and preparation of FGD guides at the APHRC office. The ILRI grant (2008 DSN 303) included interviews with the PI and key stakeholders (coordinator of the Participatory Epidemiology Network for Animal and Human Health (PENAPH), the National Consultant Veterinary Epidemiologist

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Trans-boundary Animal Diseases, the Food and Agriculture Organization of the United Nations (FAO), and the Emergency Centre for Trans-boundary Animal Diseases (ECTAD) Regional Unit. Also in Nairobi, a stakeholder (the head of the Division of Port Health Services at the Ministry of Health) from the East African Integrated Disease Surveillance Network (EAIDSNet) (2008 DSN 312) grant was interviewed. An interview focusing on the thematic area on relevance was held with the head of the Foundation's Africa Regional Office and the administrative program manager. The team traveled to Kampala, Uganda to meet with the PI and collaborators of the Health Emergency Management Project (HEMP) (2008 DSN 308) grant at the School of Public Health at Makerere University. The office of the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) (2008 DSN 307) was visited, and there, a FGD was held with the deputy of the PI at the secretariat and three research grant students. Near Kampala, a semi-urban health district was visited for a FGD conducted with district-level stakeholders who attended HEMP training.

Part of the team stayed in Kampala to complete interviews and FGDs with key persons involved in the HEMP (trainers of the HEMP, IT manager of the School of Public Health at Makerere University, and the project technical advisor). The other team members traveled to Arusha, Tanzania, where they met with the grant holder (principal health officer of the EAC Secretariat in Arusha) for the EAIDSNet grant (2008 DSN 312) at the offices of the EAC. Interviews were held with three stakeholders: the director of the Animal Health and National World Organization for Animal Health (OIE) in Burundi; a professor of virology specializing in trans-boundary animal diseases and zoonoses at the University of Nairobi; and the assistant director of veterinary services and national avian influenza coordinator at the Department of Veterinary Services at the Ministry of Livestock in Kenya. All three were attending a regional expert meeting. Also interviewed in Arusha was a stakeholder: the head of the Tanzania Wildlife Research Institute (TAWIRI) for the grants to the Southern African Centre for Infectious Disease Surveillance (SACIDS) (2008 DSN 310/2009 DSN 305). Next, the team traveled to Dar es Salaam. At Sokoine University of Agriculture (SUA), located in Morogoro, Tanzania, a FGD was held with three stakeholders involved in the two SACIDS grants: the ICT specialist based at SUA and two postdoctoral researchers, based respectively in Morogoro, Tanzania and Kinshasa, Democratic Republic of Congo (DRC). In Dar es Salaam, the team split to interview three additional stakeholders: the head of the epidemiology section at the Ministry of Livestock, the head of the Epidemiology Department at the Ministry of Health, and a veterinarian and senior researcher at the National Institute for Medical Research (NIMR) who specialized in infectious disease surveillance. A site visit was also made to a semi-urban health district.

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2.3.6   Data Collection and Management
2.3.6.1   Portfolio Review

The following methodological procedure was used for the portfolio review. All available project documents, publications, manuals, and correspondence related to the grants were screened. Documents containing information relevant to matrix questions were studied for content responding to queries of key performance areas. Relevant content was entered, with a source reference, into an extended Microsoft® Excel version of the matrix, and related to research question coding from the global evaluation. Data collection for the evaluation was as follows: (1) documents obtained from the Foundation's SharePoint site, grant holders, the Internet (publications) and other sources were stored on an internal server at Swiss TPH, where access was restricted to Foundation evaluation team members; and (2) source documents relevant for portfolio review performed by the APHRC evaluation team were uploaded to a Google site accessible by the entire Africa Evaluation Team. The portfolio review considered source documents and publications received by November 30, 2010. Excel files from the portfolio review of each grant were converted to PDFs for inclusion in the qualitative analysis.

2.3.6.2   Transcription of Interviews

The interviews and FGDs were recorded on handheld IC recorders (Sony ICD-PX820, San Diego, California, U.S.A.). All recordings were fully transcribed using audio transcription software (f4 V3.1.0®, www.audiotranskription.de).

2.3.6.3   Quality Control

To ensure data quality and minimize bias in the conduct of the evaluation, several measures were implemented during data collection. During the portfolio analysis, excerpted content was referenced to the source. Each grant portfolio was reviewed by two evaluators.

It was clarified to all interviewees that the evaluation focus was on the Foundation's DSN Initiative rather than the disease surveillance systems of the countries. This was important to maximize objectivity of the beneficiaries and stakeholders. All interview transcriptions were reviewed by a second person. Interviews transcribed by APHRC team members underwent quality control by a Swiss TPH team member and vice versa. The variety of data collection sources that were utilized enabled validation of findings through triangulation.

2.3.7 Analysis of Data

Qualitative data analysis software (Atlas.ti® GmbH, version 6.2, Berlin, Germany) was used to code quotations in relevant sections of portfolio analysis summaries, project documents and field interview transcripts. Codes were generated from key words selected in the evaluation matrix, down to the third level (sub-sub questions). This approach was chosen in order to facilitate harmonization with the global evaluation report. Code lists were shared with the Global Evaluation Team. Three evaluators developed hermeneutic units that included two or three projects each. Four evaluators summarized all quotations, code by code, within hermeneutic units (phase one). In phase two, four evaluators summarized the phase-one data within codes, but across all hermeneutic units. The third phase of the analysis consisted of four evaluators repeating the phase-two work of another evaluator, for quality control.

2.3.8 Reflections on the Evaluation Method

The Swiss TPH-APHRC team collaborated well with the Global Evaluation Team. Exchange visits between Swiss TPH and APHRC were efficient and fruitful because next steps could be planned together. This evaluation allowed for building of capacity at both institutions and for the transfer of technology through using new text analysis software tools. Foundation video conferences allowed for alignment with all involved at the Foundation's headquarters, the Foundation's Africa Regional Office and the Global Evaluation Team. The Africa Evaluation Team also benefited from the experiences of the Mekong Evaluation Team. The Africa Evaluation Team was very well received by interviewees and grantees provided generous support to the team. The matrix provided a highly structured framework for the evaluation. However, the granular detail resulted in some redundancy across key questions. For example, capacity building and collaboration were addressed under multiple key questions.

3. Findings

The sections below summarize the relevant findings, following the structure of the Africa DSN evaluation matrix. The matrix questions in Annex 1 have been renumbered to reflect the numbering in this chapter by adding "3" as a prefix.

3.1 Relevance
3.1.1 Concept

The general philosophy of the Foundation focuses on social and systemic dimensions of health[10], unlike the more "technocratic"-oriented philanthropy of other U.S. institutions. The DSN Initiative in Africa, a corollary of the DSN Initiative in the Mekong, addresses the lack of capacity to detect and respond to recent emerging diseases spreading across national boundaries. Many of these are of zoonotic origin, requiring a cross-sector human and animal health approach.[11]

3.1.1.1 Rationale and Relevance

Global consultation processes with governments, international organizations and other donors, such as the Bill & Melinda Gates Foundation, preceded the launching of DSN activities in the greater Mekong region of Southeast Asia. This was also facilitated by regional cooperation agreements including the WHO-AFRO promotion of the Integrated Approach for Disease Surveillance and Response beginning in 1998. Africa DSN projects are divided into two streams, one developing surveillance methods (such as participatory epidemiology and the use of information technology) and the second emphasizing capacity building in the field of emergency response and regional disease surveillance (such as SACIDS and Animal and Human Health for the Environment and Development—Great Limpopo Transfrontier Conservation Area or AHEAD-GLTCA). They were relevant to transdisciplinary disease surveillance[12] and to existing regional frameworks (resources are lacking for strengthening systems). They also addressed issues that were relevant to stakeholders in the region.[13]

3.1.1.2 Situation Analysis

There is an articulated situation analysis in Foundation documents,[14] and in project documents and interviews, referring to the lack of adequate surveillance and diagnostic capacity. Newly occurring outbreaks have often catalyzed interactions between governments and between different sectors, but surveillance without response capacity and feedback to the source weakens reporting. Gaps in service delivery and training, response to regional zoonotic and epizoonotic diseases, and emergency preparedness were identified by

some of the projects. In other cases, the first phase of grant work included interaction with stakeholders resulting in key input, particularly for identification of geographical study areas.[15]

3.1.1.3 Logic

The DSN Initiative in Africa builds on regional agreements for an integrated approach for disease surveillance and complements the global activities that encompass all areas where the Foundation is active.[16] It is based on a paradigm of growth with equity, "smart globalization," and attempting to ensure that poor and vulnerable populations access the benefits of globalization. The DSN Initiative in Africa has profited from the presence of the Rockefeller Foundation's Africa Regional Office and the move of key staff to Nairobi. The DSN Initiative in Africa has been adapted to the local context, e.g. by including a focus on wildlife issues (AHEAD—GLTCA), which has not been addressed in the DSN Initiative in Asia. PENAPH has been connected to ongoing activities such as the Pan African Programme to Control Epizootics, the successor of the Pan African Rinderpest Campaign. Projects relate to and support existing surveillance networks, initiated by the WHO, such as the EAIDSNet, which also benefited from Foundation support.

3.1.1.4 Alignment

This section is covered by the Global Evaluation Team. The DSN Initiative in Africa is embedded in the Foundation's Global DSN Initiative and has been adapted to the African context, e.g. by including wildlife health aspects. The DSN Initiative in Africa also has linkages to the initiative in Asia, e.g. EAIDSNet and SACIDS.

3.1.1.5 User Needs

Projects on ICT development recognized the importance of mobile communication in geographic areas with poor infrastructure, and the technologies were highly adopted by local communities. The projects were designed to address stakeholders' needs, identified as follows: community use of electronic reporting systems, EAC notification systems for priority diseases, and training deficits.

3.1.1.6 Were Key Stakeholders Involved in Problem Formulation?

Stakeholder involvement at this stage seemed variable across grants. Some grantees were highly connected with government authorities. For others, there was no evidence of stakeholders, with the exception of grant applicants,

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being involved in problem formulation. It was noted that communication with authorities could be improved. Stakeholders were well included in project operations, e.g. the AHEAD-GLTCA (2007 PAN 210)[17] project, which involved stakeholders in annual meetings, allowing authorities and scientists to have excellent exchanges (J. Zinsstag attended the 2010 meeting in Hazyview, Mpumalanga Province, South Africa). Stakeholders were explicitly included in the participatory epidemiology network (2008 DSN 303). The Foundation maintains comprehensive stakeholder consultations through its regional offices in Africa and Asia for future program development. The Foundation could require grant holders to document the stakeholder consultations preceding grant application.

One grant (2008 DSN 308) was based on a situation analysis for each of the countries involved. Gaps in service delivery and training, response to regional zoonotic and epizoonotic disease outbreaks, and emergency preparedness were identified. Projects were designed to address the needs of stakeholders in the region. The initiative is relevant to existing regional frameworks, as evidenced by a stakeholder statement that resources are lacking for strengthening systems. Proposals reflect robust conceptual thinking. For instance, could ICT facilitate or overcome the constraints imposed by poor physical infrastructures and logistics?

3.1.2 Role, Niche and Comparative Advantage of the Rockefeller Foundation

The Rockefeller Foundation, originally rooted in Protestant ethics, moved into a paradigm of science-based social responsibility, strongly influencing the development of academic social science in North America.[18] The Foundation's general philosophy is broad considering social and systemic dimensions of health. The Foundation has a wider interdisciplinary approach involving social science and public health at the grassroots level,[19] rather than a focus on technical "magic bullet" solutions (e.g. the Bill & Melinda Gates Foundation's program on thermostable vaccines)[20] or political interest (e.g. the United States Agency for International Development's work is perceived as politically motivated). The Foundation is unique among funding institutions in its support for development of DSN globally. Supporting the institutionalization of DSN is seen as a potential core area for the Foundation because it has long-term experience in funding DSN. The investment in disease surveillance is of benefit not only to Africa, but to the entire world.

The Foundation has a long history of support for university-level capacity building, regionally and across continents,[21] with an innovative rather than a conventional approach. The range and spread of grants under the DSN

portfolio indicate that the Foundation is the major funding organization involved in disease surveillance in East and Southern Africa. The Foundation clearly has a niche and comparative advantage in public health and health systems research, with an emphasis on societal and ecological determinants of health, including One Health. The global engagement of the Foundation harbors potential to enhance its output through networking between continents.

"The comfort zone is top-down. We conceive it in Europe; We conceive it in London; We conceive it in Brussels… The Foundation takes trust in investing in grassroots, but not in isolation."[22]

3.1.2.1 Comparative Advantage

The way the Foundation works with grantees is in a spirit of partnership, as compared to the "top-down" relationships of the European Union. Advantages of the Foundation cited by grantees were that it has user-friendly granting procedures and flexibility in grantmaking and handling. The Foundation excels at networking, focusing on outcomes, and maintaining a technical link with grantees. The Foundation tests new ideas with "patience capital" and a strong convening power, in a culture unconstrained by "fear of failure." The Foundation is perceived as a catalyst in thought leadership, with a focus on where "gaps" exist and what might stimulate change in global health diplomacy.

The Foundation is free to invest in areas it recognizes as important because experts are empowered to carry out practical work without operational interference. Grantees appreciated having a "working partner" relationship, rather than an "expert–trainee" relationship. This type of rapport is outlined in Foundation documents.[23] Another big advantage mentioned was the strengthening of on-site capacity building in the countries using existing networks, but also North-South partnership. The Foundation has extensive field experience nearly worldwide, and its flexibility and independence, without vested interests, is highly appreciated. The presence of a regional office affords clear insight into the local situation.

"Certainly one of the things is that they [the Foundation] look more like honest brokers ….The challenge we have today is that …people sometimes seem to feel that there could be other motives for doing certain things."[24]

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Increased institutional and planning capacity is needed across the continent. Building of on-site capacity increases the likelihood of retaining that capacity on the continent. A disadvantage cited was that grants are generally small, not being sufficient to sustain Africa-wide initiatives. Further, there was a perception of lack of technical expertise to follow up grants when compared to other grantmaking institutions such as the World Bank and the African Development Bank (ADB).

3.1.2.2 Value Added

Grantees expressed a preference for Rockefeller Foundation funding over other organizations due to the flexible approach to grantmaking and favorable rules of engagement of the Foundation. These factors offer the Foundation a comparative advantage and a lead over other funding agencies, such as the World Bank and the ADB, especially in the field of disease surveillance. A particular added value reflecting the Foundation's innovation is the strengthening of postdoctoral scientists in Africa. Postdoctoral positions are uncommon in African universities, and only a few other institutions emphasize their importance in institution building.

" …. the project funded by the Rockefeller Foundation was the first project that introduced to us the postdoctoral concept …these are pioneers in our universities."[25]

Another comparative advantage is the extraordinary convening power of the Foundation, with the Bellagio meetings promoting "out-of-the-box" thinking across sectors. The Foundation, covering health, agriculture and social sciences, has the expertise for an integrated development research approach. A holistic approach to disease management (One Health), including close interaction with communities, national, regional and international institutions was clearly perceived as "better science." However, the different sectors should be further interconnected to generate added value.

3.1.2.3 Future Core Areas and Leadership

Disease surveillance networks should be institutionalized to ensure their sustainability. The Foundation is seen in future support for the institutionalization of DSN because the Foundation has long-term experience in funding DSN. One of the grantees sees three leading DSNs that potentially build a "springboard" for smaller ones: the EAIDSNet in East Africa, the Mekong Basin Disease Surveillance (MBDS) regional network in East Asia and the Middle East DSN. The three big networks should be brought together, and

experiences and lessons should be shared. The Foundation has the capacity to support this integration. The Foundation should also widen the scope of coverage of DSN and maintain a long-term perspective.

As one of the few funding institutions, the Foundation has a highly credible One Health engagement and could conceptually strengthen ecosystems approaches to health. The Foundation could take leadership in integrated development research by stronger interconnection of its overall program. For example, the well-established competence and experience of the Foundation could be engaged in the rapidly growing food security crisis through integrated agriculture-health, One Health and ecosystem-health approaches. The credibility of the Foundation positions it uniquely amongst U.S. institutions, with the closest conceptual "competitor" likely to be the International Development Research Centre (IDRC) in Ottawa.

3.2 Effectiveness

3.2.1. Africa DSN Strategy

Diseases with pandemic potential affect all populations, so surveillance and control, fostered by the DSN Initiative, benefit all societies and world regions.

3.2.1.1 Planning and Strategy

Strategic DSN Initiative documents are few but targeted. The Foundation follows a flexible strategy, allowing for grant applicants and authorities to shape the strategic approach. The DSN Initiative in Africa was derived from the global component of the Foundation's DSN Initiative with local adaptation, e.g. considering wildlife conservation through integrated understanding based on innovative interdisciplinary applied research, monitoring and surveillance and ecosystem goods and services. This strategic orientation is similar to the Canadian IDRC Ecohealth program initiative and the Wellcome Trust One Health Africa capacity-building initiative. The strategy of the DSN Initiative is to build on synergies, strengthening capacity so that the impacts of epidemics are mitigated across all levels.

3.2.1.2 Contribution to the Overall Rockefeller Foundation Strategy

The DSN Initiative strategy clearly contributes to the Foundation's overall strategic aims of equity and mitigation of negative effects of globalization, but the theoretical basis to this seemed not well-documented and theoretical considerations were not noted in grant documents. Little reference to the One Health publications was noted in Foundation and grant documents. The DSN Initiative in Africa creates and strengthens South-South-North

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partnerships[26][27] and builds on the existing contributions of the Foundation to public health in Africa, such as its long-standing support for the master's degree of public health program at Makerere University in Uganda. The DSN Initiative is responsive to regional issues and trends, but appears to be primarily conceived at an academic level.[28][29] There has been some change over time with regard to an increasing emphasis on cross-sector and transdisciplinary involvement, specifically a One Health perspective.[30][31]

3.2.2 What do Individual Grants Contribute to the Overall DSN Initiative Strategy?

Grantees brought fresh ideas to the Foundation. In this sense, individual grants contributed to shaping the overall DSN Initiative strategy. The Foundation's collaborators attended project meetings and discussed strategic issues. Grant holders stressed the importance of local ownership, and grant proposals often stated the aim of involving stakeholders, but there is little evidence to support that these interactions related to the overall DSN Initiative strategy.[32]

3.2.2.1 How Were Grants Selected?

There was no evidence supporting a formal call for projects. Some grantees took the initiative to approach the Foundation and were subsequently funded.[33] The Foundation provided funding for grants that matched active initiatives. The Foundation selected and funded proposals developed by regional disease surveillance experts[34] and was willing to take some risk for new ideas. There are still inequities among research institutions in their ability to fulfill grant criteria. Some grants were based on situation analysis, including consultation of stakeholders at the district level on necessary capacity development. But grant proposals were formulated primarily at an academic level.[35]

3.2.3 Achieving Objectives

The key objectives of the DSN Initiative were stated as outcome areas: (1) strengthen and sustain DSN networks; (2) strengthen human and institutional capacity; (3) test and apply new surveillance tools; and (4) increase transdisciplinary leadership in One Health. The East Africa program portfolio contributed in all stated areas to varying degrees. DSN networks were strengthened, but the linkages with national authorities remain fragile and require a carefully planned transition.

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3.2.3.1 How Do the African DSN Objectives Relate to the Overall DSN Objectives?

The DSN Initiative's objectives in Africa were harmonized with the overall DSN objectives and extended to include a focus on wildlife health. The DSN Initiative introduced innovative approaches to human resource capacity building (the training of staff at the district level in three countries for disaster readiness and response,[36] field visits for regional network collaboration and cross-border table-top exercises)[37] and scientific capacity building (establishing a community of practice to incorporate scientists at the level of postdoctoral fellow.)[38] New methods (participatory epidemiology) and technologies (Android phones and digital pens)[39][40] were launched and networking occurred. However, national surveillance capacity and political support appear weaker than in the Mekong region and require careful consideration towards the sustainability of DSN.

3.2.4 Support Regional Networks

The DSN Initiative in Africa clearly fostered regional networks and collaboration. The participatory epidemiology network (PENAPH) was unique in its strong collaboration in West Africa, where there appears to be little Foundation activity, and it was also connected to the Eastern African Unit of the Emergency Centre for Transboundary Animal Diseases (ECTADs), which covers Djibouti to Burundi. The HEMP had outreach (including training curricula in two languages) in DRC, Burundi and Rwanda, in addition to being connected to the EAC health desk. SACIDS was conceived as a virtual center pooling resources around themes and across sectors. Their projects included extensive collaboration and linked the Foundation grants in Africa, Southeast Asia and Europe. The AHEAD-GLTCA project served to link conservation areas between South Africa, Mozambique and Zimbabwe and strongly encouraged a One Health approach.[41] Stakeholders were positive about the role regional networks, e.g. EAIDSNet, played in information sharing between participating countries, particularly with regard to transboundary animal diseases.

"That is part of what is driving the SACIDS, the concept of a virtual center where you pool the resources around themes, and pool resources at cross sectors, and across administrative boundaries. I think that is one way we should be doing it in Africa. We can tap into expertise in South Africa. They are part of us."[42]

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The strong networking history of the DSN Initiative certainly translates into leverage. However, the quality of networks could not be judged in detail and they likely rely on individual champions. Individual leaders will maintain collaboration, but these depend on personalities. A pivotal issue in the future for DSN is the nexus between projects (generally academic institutions) and governments (including the connection to national health information systems), which remains weak.

3.2.5 Bridges Between Regional and Global Monitoring Efforts

Although the grants showed linkages with regional and global networks and partners, international collaboration was not yet clear or strong. SACIDS was regionally connected to EAIDSNet and MBDS and globally to the Global Outbreak Alert and Response Network and Connecting Health Organizations for Regional Disease Surveillance (CHORDS). There appeared to be some overlap with the FAO and WHO, but an advantage through this preexisting groundwork. SACIDS was also collaborating with European universities and other Foundation grant institutions such as ILRI, promoting One Health, particularly a closer cooperation between natural and social sciences. AHEAD brings together senior staff from the agricultural, conservation, and public health sectors with managers, researchers, young graduate students and NGO employees from South Africa, Mozambique and Zimbabwe.[43] PENAPH links African DSN with activities in Shanghai, Indonesia, Japan, Pakistan, central Asia and South America. There seemed to be overlap between the international organizations (OIE, FAO and WHO) in management of disease surveillance, but also signs of ongoing harmonization. High fluctuations of staff occurred, causing a loss of knowledge about the international and Foundation institutional landscape. RUFORUM largely covered East Africa, but has greater potential. There was reference to collaboration with the African Field Epidemiology Network (AFENet), also involved in disease surveillance for epidemics.

"We [RUFORUM] would have liked to see the continent covered, but the project unfortunately is only covering East Africa in this particular case. What we are doing now is to try and look for other means."[44]

Grant proposals aimed to promote existing regional platforms,[45] but evidence that this occurred was lacking at this stage. The networks were seen as an opportunity for strengthening regional collaboration, for example, a meeting on contingency plans for outbreaks was held in Arusha the day of the evaluation team visit.

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3.2.6 Outputs of the Selected Grants and Their Quality

Potential outputs of the DSN Initiative's grantees working in Africa are beneficial to the population if they are of good quality and if they ultimately lead to improvements in surveillance systems. High quality outputs also benefit governments by improving the efficiency of information systems, thus allowing governments to control costs through greater efficiencies.

3.2.6.1 Capacity Building in Surveillance, Cross-border and Cross-sector Collaboration

Surveillance networks require coordination, basic skills in data management and diagnostic capacity. Capacity building raises awareness which also changes the way people think and act. Capacity building has occurred at individual, community, governmental (district) and academic levels.[46][47][48] Scientific capacity has been strengthened at MSc and Ph.D. levels in the RUFORUM, SACIDS and AHEAD grants.[49] The RUFORUM network approach also brings together young students from all over Africa. HEMP has trained more than 700 district staff through Foundation funding. Outputs achieved included 19 additional trainers (3 per country), 235 disease surveillance staff trained from 10 countries, and development of a new module for the disaster management training curriculum.[50] In Uganda, personnel from one-third of the health districts have been trained. AHEAD provided training in wildlife health in Southern Africa at the district and village level.[51] PENAPH built capacity ranging from the level of scientists to community workers, which raised awareness and contributed to the control of rinderpest outbreaks in Southern Sudan. The "training of trainers" approach provided substantial leverage and allowed for extension of capacity building to Francophone West Africa.

"The lesson over the years is that people change their attitudes. After three months, bureaucratic approaches change, people become interested in what farmers know, and they realize this is useful information that they need to understand. The participatory epidemiology techniques change people and institutions."[52]

The DSN Initiative certainly contributed to the awareness and acceptance of the One Health approach. Ministries of health have begun to include veterinarians in addressing zoonotic diseases. Actual change towards a closer integration at government level happens, however, more under the pressure of outbreaks. In Tanzania, information regarding disease surveillance is shared

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with the Ministry of Management in order to ensure preparedness for outbreaks and to make available resources by this Ministry. Some governments created multi-sector teams in charge of moving forward policies and legislative background for multi-sector collaboration. A cross-sector national task force was built in Kenya, including representatives from the Ministries of Health, Livestock and Internal Security, which elaborated the national action plan. However, evidence on implementation could not be traced by the evaluation team.

Cross-border collaboration seems to be at an initial stage, explained by some stakeholders as partially due to weak national health systems in the region.[53] An example of cross-border collaboration in disease surveillance was the Kagera Water Basin area, where a demographic health surveillance system has been established in one of the districts.

3.2.6.2 Information and Communication Technologies Development

A number of ICT to enhance the functioning of surveillance networks are being field tested or are in an early stage of implementation. Examples include mobile communication (Android phones), global positioning systems (GPS), mobile photography combined with rapid field tests, digital pens, and hand-held data collection.[54] The introduction of such innovative technology requires operational research to assess their efficacy, adequacy and affordability in the local African context, despite their wide application in Asia. Published evidence on experiences with these tools is not yet present, and assessment of the usefulness of ICT for the DSN Initiative in Africa was not clearly defined in study designs.

3.2.6.3 Communication

Cross-sector communication has been enhanced, but mainly through individuals, which is not sustainable. There was no evidence of formal communication across trans-national and cross-sector networks.

3.2.6.4 Policy Dialogue

Grant work contributed to policy dialogue, but the process of policy change was at an early stage. Projects were located in the policy cycle primarily in the area of agenda setting.[55] Proposed policy negotiation has not yet occurred.[56][57]

PENAPH aligns its activities with existing DSN and actively pursues dialogue with decision makers and planners. There are also indirect effects by trained staff in diagnostic labs, academia and at the district level, thereby

enhancing the professionalism of DSN. RUFORUM directly involves collaborators from the Ministry of Agriculture, who use acquired knowledge at the ministerial level. It was stated that the Ugandan disaster management plan has been drafted by the prime minister's office, in conjunction with the HEMP protocol. SACIDS is closely connected to the ministries in the respective partner countries.

"At most of the networks, for the sake of sustainability, there is the thought that they should be anchored in the regional economic communities, because the outside funding will not go on forever. Meetings have been carried out with these people to try to make sure these networks will remain over time."[58]

Efforts in advocating the One Health concept were also made by some stakeholders with politicians to increase understanding of the concept and to harmonize existing policy frameworks and acts with current disease control strategy.

"The other thing will be harmonization of some policies and acts. In Tanzania, we have a number of contradicting policies and acts, which sometimes probably contributes to inadequate disease-control strategies. Policy pairing is a priority in most institutions to engage every stakeholder and every sector when it comes to disease interventions."[59]

3.2.6.5 Dissemination of Findings

Lack of evidence was one of the weakest points of the initiative in Africa. Projects developed posters, handouts, teaching materials and Web sites to communicate their work. The Makerere University School of Public Health states that the *East African Journal of Public Health* has been reactivated and updated, but on January 18, 2011, the most recent online edition was dated 2008. According to a stakeholder, information on epidemics is disseminated in newspapers to inform the public.

The evaluation team expected to receive a list of peer-reviewed publications from every grant holder. Instead, a surprising deficit in scientific documentation through publication was observed, which likely affects policy dialogue and the visibility of the Foundation. In addition, there was much jargon used but little solid evidence of an added value of One Health or the effectiveness of ICT.

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3.2.7 Outcomes

Outcomes included the introduction of new methods such as risk-based sur-veillance in SACIDS or advocacy for commodity-based trade in Southern Africa, a strategy to overcome export restrictions due to endemic foot-and-mouth disease (FMD) in South African wildlife conservation areas. Outcomes could also be a change in attitude: e.g. through work done by PENAPH, indigenous/farmer knowledge has come to be valued by veterinarians.

3.2.7.1 Trans-boundary DSN

There is increased dialogue and consultation on trans-boundary animal dis-ease between countries of the EAC through workshops and task forces. Con-tingency plans currently exist for rift valley fever (RVF), peste des petits ruminants and avian influenza (AI) in Sudan, Ethiopia and Somalia. Emer-gency plans have already been activated in small outbreaks. It is difficult to relate these activities solely to the Foundation's DSN Initiative, but clearly, it has contributed. This is a long-term engagement. EAIDSNet, with funding from the Foundation, initiated the implementation of community-based integrated human-animal disease surveillance in cross-border settings through advocacy, identification, recruitment and motivation of local volunteer com-munity health workers and linked them to the National Human and Animal Integrated Disease Surveillance and Response System.[60]

The HEMP project provided statistics from trainings, including numbers of provincial officials from Kenya, DRC and Rwanda who had been trained in emergency management. By November 2010, 235 participants from 10 countries had received training and developed operational plans for disaster management. An extensive training curriculum manual was developed in two languages.[61] However, the evaluation team received no information on the three planned publications for 2010, and the HEMP Country Progress Report for Rwanda was only two pages, indicating a weakness in documenta-tion. SACIDS is building a network of high-level institutions from the South and North that are involved in pandemic response. Africa-Asia exchanges and collaboration were fostered, to benefit from best practices.[62 63]

3.2.8 Capacity Building

Human resource capacity in disease surveillance has been built at commu-nity, district and national levels. PENAPH introduced courses on participa-tory epidemiology into university curricula. University-based programs such as RUFORUM had a high level of leverage by direct training, in addition to developing small grants for young researchers. Community health workers

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have been identified and training, including both the human and animal sectors, has been initiated in some districts.[64] However, in other areas, there have been delays in developing the training materials due to local language translation issues. District teams have been trained in disaster and disease outbreak management through the HEMP grant. District and national personnel have benefited from the emerging infectious disease table topic, and field simulation exercises have been held in Kenya and Uganda. There was no information on quality control of new capacity in disease surveillance and no indication of any accreditation process.

"Many of the people we have trained over the years are now leaders in their countries: directors of veterinary services, senior officers, and international consultants."[65]

3.2.8.1 Institutional Capacity Building

Institutional capacity has increased. The coordination of EAIDSNet was transferred from NIMR to the health desk of EAC. Training curriculum modules on zoonotic disease surveillance have been included in master's degree of public health programs. District disaster management plans have been developed, but the process of integrating them into policy is still ongoing. Stakeholders noted that limitations to institutional capacity still exist in the area of data management and infrastructure weakness, especially laboratory capacity.

"….there is a zoonosis technical group meeting where I participate. Kenya's Ministry of Livestock Development, through its Department of Veterinary Services and the Ministry of Public Health, come together and share information through this technical working group. They had some resolutions and a way forward for them to work together by sharing information… they embraced the issue of One Health."[66]

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3.2.9 New Tools and Methods (information and communication technologies)

New mobile technologies, approaches and tools are promising in enhancing the flow of information, and in promptness of capturing disease events, and in reporting regarding disease alerts.[67]

"The mobile technologies are serving to overcome the constraints of poor physical infrastructure in Africa and Asia by real-time transmission of clinical observations at the point of disease outbreak (be it in communities, health facilities, on the farm or in wildlife) to experts at district, provincial or national headquarters, and the feedback (i.e. response) from such expertise to the point of outbreak, also in near real time. It is a technical empowerment of the primary health (human or animal) responders, who in Africa are invariably sub-professional or even auxiliary cadres. This is a clear example of technology that is fit for the purpose."[68]

Communication between different country teams was reported to have improved due to ICT support in the form of servers and internet infrastructure. Under grant 2008 DSN 308, the e-learning server was relocated from Europe to Makerere University, resulting in increased local ownership and facilitating access to learning materials on the network by trainers and participants.[69] Several stakeholders mentioned the weakness of the HMIS, and the importance of strengthening them as a primary source of health information. Reporting was felt to be improving with innovation in ICT, such as digital pens. However, capacity in disease surveillance and laboratories still needs to be built and strengthened in the near future. At the regional level, it was mentioned that the EAC Secretariat needs to build its capacity to rapidly collect and share surveillance information directly with member states, rather than through the WHO. Leverage momentum potential was noted in one project where unique access to national disease data was facilitated through an arrangement with the Ministry of Health.

3.2.9.1 New Devices

New mobile and ICT were field tested in many of the grants. Geographic information systems, as new ICT, were introduced and used by grantees at academic, ministry and district levels. The 2008 DSN 310 and 2009 DSN 305 grants have tested a manual and the Android mobile operational system technology in animal and human health sectors for the collection of disease surveillance data.[70][71] The project used an official system and arranged with

the Ministry of Health and the Ministry of Livestock to report on ten priority diseases for human and animal health.[72] Android cell phones were tested at health facilities of pilot districts for completing and transmitting electronic routine disease reports to the next higher level, and at the community level with trained "community-based reporters." Mobile technologies were tested in different ecosystems such as the Ngorongoro, Kagera River Basin cross-border areas (Burundi, Rwanda and Tanzania) and in the Zambezi River Basin (Zambia).[73 74] In addition, Web applications (EpiCollect) were used for data transfer from cell phones to Microsoft Excel® and available open-source tools were tested for the Android platform.[75]

Cell phones and GPS recording were used for FMD surveillance in Uganda by RUFORUM. A surveillance system is in place in the Ugandan health system where outbreak information can be sent by SMS. In addition, geographic information systems (GIS) and mapping tools were introduced at the health district level for mapping purposes (e.g. collecting geographical coordinates of health facilities and other features using GPS), and elementary data management in pilot health districts in Tanzania and DRC. Another new method, simulation modeling, was tested on lion biology by AHEAD.[76]

3.2.10 Transdisciplinary—One Health

The Foundation emphasizes cross-sector One Health and transdisciplinary approaches in its DSN Initiative and the reviewed grants focused on developing capacity in these areas. The term "transdisciplinary" is not further specified (e.g. by referring to a textbook definition) in Foundation or grant documents.[77] We suspect there is confusion between what is considered interdisciplinary (collaboration between scientific disciplines) and transdisciplinary (the connection between science and society, e.g. between academic and non-academic knowledge and actors). In this sense, participatory epidemiology and policy dialogue are most closely related to transdisciplinary theory. PENAPH grew out of participatory rural appraisal methods and benefited from a large body of practical knowledge of communities in the field. The project recognized the importance of understanding the people's real needs. PENAPH initiated training of medical doctors and veterinarians. Further linkages were established with the wildlife sector. This is a unique feature of the DSN Initiative in Africa.

One Health as a concept is also not specified in written documentation, and we found no reference to published concept papers.[78 79 80] Interviewees gave rather operational definitions, and there is no clear strategy that would delineate and guide activities. One of the challenges in advocating the One Health concept in the local population is the appropriate translation into local languages.

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As a working concept, we consider One Health as any added value of closer cooperation between human and animal health, as compared to both sectors working individually. In this context, the added value of One Health is accelerating information about outbreaks of zoonoses such as RVF; saving resources from working together on AI or rabies; or sharing infrastructure, laboratory resources and joint interventions between sectors. Some inter-sector collaboration is already practiced in remote areas and other locations with limited infrastructure (e.g. sharing of cold chains for vaccinations and laboratories by human and animal health sectors). However, new policies have not yet been adapted. One of the projects is mapping potential joint resources that can be shared to raise awareness of improving joint synergies. The same project is also recruiting a postdoctoral fellow who will more closely examine health policy and strategies, and how they could be adapted to address the One Health concept. The control of rabies was cited several times as an example of success using the One Health approach in Entebbe, Uganda and Arusha, Tanzania.

Awareness of the One Health concept has been raised and actions have been taken at the academic level to form the Higher Education Alliance for Leadership Through Health (www.halliance.org), a network of seven East African schools of public health. However, One Health still has a huge untapped potential. It is just at the beginning stage, and the Foundation, challenged only by Wellcome Trust, is clearly the leading grantmaking institution in shaping it.

"I talked about when you go to a farmer and you are dealing with him. He has a problem, and it's difficult to identify, and you are talking about the multi-disciplinarity of it. When you have people from different fields, you are able to better see what the issue really is. Because each is only looking through one lens. But together, you are able to see through many different avenues."[81]

3.2.10.1 Transdisciplinary and One Health Leadership

The Foundation is the leading grantmaker worldwide for One Health. Possibly this stems from an open culture of breaking silos between disciplines towards a united approach of professionals working together. There was evidence from one grant that the transdisciplinary and One Health approach has become more anchored in research activities. For example, there was establishment of a "trans-boundary animal diseases working group" involving different stakeholders from research and academia, government and

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communities, tasked with enhancing national and regional policy responsiveness to trans-boundary animal diseases.[82] The role of PENAPH was not institution building, but rather seeding One Health ideas into people's minds and facilitating institutional interactions. One grant holder (2008 DSN 312) was considered a leader of One Health in Africa. There was also leadership in academic reform. Specific One Health master's degree programs with joint curricula for human and animal health were developed at the University of Nairobi and at the School of Public Health and RUFORUM at Makerere University in Uganda.

"We had a deans' meeting and the alliance brought together all the other schools of veterinary medicine in the region to work with us. We have formed One Health Central and Eastern Africa (OHCEA), a network that brings together schools of public health and veterinary medicine amongst the six countries. The secretariat is here, and they made me the chair of that group. Our objectives are to look at health as one in terms of human and veterinary."[83]

The One Health emphasis was referred to during the situation analysis for grant 2008 DSN 308 and also in the outcomes of the projects. The modified curriculum was developed with a training manual that addresses disasters and zoonotic diseases, and recruitments have been made at the EAC, where the terms of reference have included specific responsibilities in "One Health." Joint training sessions within the government comprising the Ministries of Health, Agriculture and Livestock Development became a practice, and joint working groups address common issues like zoonotic diseases. Six EAC priority diseases at the intersection of human and animal health are addressed with the One Health approach: tuberculosis, anthrax, trypanosomiasis, RVF, Ebola and AI. Formalized regional structures, such as the National Human and Animal Integrated Disease Surveillance and Response System, exist to strengthen the transdisciplinary approach to disease surveillance in the EAC.[84]

RUFORUM has extended cross-sector dialogue to plant and agricultural scientists. AHEAD has used an integrated approach to delineate the practical risk factors for bovine tuberculosis and other zoonotic disease transmission between wildlife, livestock and human populations in the study areas in Zimbabwe, Mozambique and South Africa. Uganda, Kenya and Tanzania have established functioning inter-sector collaboration at the government level. One Health capacity building was being advocated in some of the governments. The Ministry of Health in Tanzania was considering initiation of a

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curriculum on "Epitrack," in which epidemiologists from the human and animal sides would be trained together. The sustainability lies in the assumption that these people have been trained and are working together in the field, creating a good environment for collaboration. Another example, for capacity building in the area of One Health in Burundi, is a joint training of 15 laboratory technicians from the Ministry of Agriculture and Livestock and ten laboratory technicians from the Ministry of Health in polymerase chain reaction technology for virus detection.

However, the connections seem to be fragile and dependent on external funding and individual champions. The public health sector maintains reservations. Human resource capacity in terms of number and skills is still inadequate because research and surveillance in wildlife is expensive. Interviewees explained that the One Health concept has not been institutionalized sufficiently and that until there is legislation and institutionalization in government and academia (e.g. attending courses in One Health and animal diseases required for certification of public health specialists), the initiative will not be successful. It is also recommended that national governments revise the actual curriculum and develop and introduce adapted policy strategies in order to sustain capacity building in One Health.

3.2.11 Organizational Excellence

There was little information on organizational excellence, but many of the grantees manage larger portfolios of projects. It was not clear to what extent their grants were strictly separated. There were definitely overlaps, e.g. between Rockefeller Foundation and Wellcome Trust grants. The regional network in East Africa was improving its ability to coordinate responses during disease outbreaks, particularly with the use of multidisciplinary and multi-stakeholder teams managing the responses.

3.2.12 Policy Influence
3.2.12.1 Conceptualization of Policy Change

There was sparse indication for conceptualization of policy dialogue as it is conceived by transdisciplinary research theory. The evaluation team did not find reference to theoretical basis of science-to-policy dialogue. Single grantees held panel discussions with key policy representatives, indicating awareness of disseminating the right information to the right audience. This example falls under "agenda setting" in the policy cycle. The project also shared lessons with the African Technology Policy Network regarding climate change (policy cycle: policy development).[85] Another grantee will assess researchable policy analysis issues on One Health (evaluation/review of

existing policy). A Ph.D. position is foreseen for this investigation, and the candidate has been identified. A stakeholder workshop is planned to assess critical researchable policy analysis issues on One Health.[86][87]

3.2.12.2   Planning for Policy Influence

There was very little evidence of conceptual planning of policy influence. Planning for policy influence was rather indirect by training of government staff, i.e. in One Health. Individuals maintained good contacts with government and brought national authorities on board in planning discussions (see also 3.2.6.4 policy dialogue).

3.2.12.3   Linking Policy and Practice

In Uganda, a policy document on disaster management that includes provisions regarding outbreaks of animal diseases was in its final stages. There were plans to establish an emergency disaster response center within the office of the prime minister, with representatives from the different disciplines, including human and animal health. A high-level team composed of national health ministers of countries in the EAC and representatives of other health institutions has been involved in field visits to the Mekong Basin DSN, and has initiated policy changes such as the establishment of surveillance systems at international airports in the region.[88] Initiatives, mostly from the research side, were taken to address the One Health concept to policymakers with the aim of moving forward a unified approach in infectious disease surveillance. A paper on the conceptual framework of One Health, prepared by researchers from one of the grantees, has been accepted for publication in *The Lancet Infectious Diseases.*[89][90]

3.2.13   Intended Users and Uses
3.2.13.1 Intended Users of DSN in Africa

Users of DSN were diverse: livestock holders and traders, pastoralists, communities, professional organizations, private veterinarians and physicians, all levels of governmental health systems and international agencies. There was a lack of public-to-private linkage. The private sector was important in animal health, but currently has no role in surveillance. Many private field veterinarians could be given mandates for disease surveillance. The issue of feedback from field work and the importance of strengthening feedback were raised by many interviewees. This was an example of how users could benefit from DSN, but evidence of it occurring was not noted.

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3.2.13.2 Intended Uses/Changes of DSN in Africa

Only beneficiaries and benefits of DSN in Africa were mentioned. There was no example for shaping overall strategies. Beneficiaries of networks noted were the population (benefiting from well-working systems); governments (in particular the ministries of health and livestock), and universities (access to information, methods, approaches, better training). Also mentioned were African partners benefiting from the knowledge and experience of other regions affected by emerging infectious diseases (such as H5N1 in Asia) and experiences in contingency planning, disease containment and community engagement.[91] Community-based cadres were used in disease surveillance, which may contribute to shaping the overall strategy.[92]

Uses of DSN cited were improved organizational, technical and diagnostic capacity in disease surveillance; change of attitude between sectors; accelerated detection of human and animal disease; and enhanced communication and faster response. Additional uses were contingency planning for disaster preparation and outbreak management; strengthened international communication/reporting; and reduced trade barriers due to effective animal disease control.

3.2.14 Research Capacity

Very little scientific output existed in the peer-reviewed international literature. This was clearly a weakness of the DSN Initiative. Rockefeller Foundation grants may not aim primarily at science but rather at development. However, the profile of the Foundation could rise and be more visible with high-quality science as a result of the projects. Not all types of work are readily published, but quality presentations were made by PENAPH and AHEAD members in Belgium and South Africa in 2010, and presentations are foreseen at the One Health conference in Melbourne in February 2011. It appears that AHEAD likely had the strongest publication record.

3.2.14.1 Research Capacity Building

Postdoctoral fellowships were introduced at Sokoine University of Agriculture (SUA). This is new for African universities, but is also encouraged by Wellcome Trust. SACIDS, AHEAD and RUFORUM were strongly engaged in the training of young scientists, but there was not yet much published output. The evidence for scientific output (publications in peer-reviewed journals) was sparse at this stage when cross-checking publication databases such as ISI Web of Knowledge, PubMed and others. Researchers (at the Ph.D. and postdoctoral levels) from some of the grants have prepared manuscripts for publications, which were in process to be published. Under grant 2008 DSN 308, the *East African Journal of Public Health* was reactivated, although

the latest posted material was dated 2008, and public health conferences were organized, with sponsored presentations on disaster management. There was to date no evidence of the publication of research work done under any of the grants. Grantees highlighted the need for greater support for research in the area of disease surveillance in the region.

There was some evidence for productivity of other outputs such as posters presented by students and postdoctoral fellows during annual meetings and conferences. A number of grants publish periodical newsletters (in electronic form on their Web pages and in paper form), such as Makerere University's School of Public Health and RUFORUM. At the secretariat of the EAIDSNet at the EAC, there was no print material available except for meeting reports signed by the participants. EAIDSNet intends to produce an electronic bulletin, but this has not been accomplished due to lack of personnel. There seemed to be good collaboration between DSN grantees on the technical level, but apparently there is also competition between disease surveillance networks working together. There was collaboration between Asian and African grantees (e.g. EAIDSNet and SACIDS). A clear research strategy was not noted in the DSN Initiative in Africa documentation.

"One, as a student, I would say that there has been a network among the students. For instance, there are the Zimbabweans and Ethiopians who come to one table and share the regular problems and also seek for solutions together. At the same time, the program has empowered us to work with communities that really are affected by most of the issues we are getting globally, regionally and locally. At the same time also, individually, our capacity is built. For instance, if I come back later, maybe I will be promoted to a different level. At the same time, my capacity to synthesize issues and seek solutions has improved. I think this has been a big contribution."[93]

In the area of technical innovations and new methods, basic GIS training on thematic mapping, elementary data management and hands-on practical use of GPS receivers (as a separate device or integrated in an Android system) for collecting geographical coordinates of features was an important aspect performed at academic level.[94] Use of Android phones, enabling collecting, entering, storing and transmitting data and information, was another innovative achievement introduced and tested in projects.

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3.3 Sustainability of Initiative Outcomes

3.3.1 Financial and Institutional Sustainability

Grantees were aware of the need for and were making efforts to assure financial and institutional sustainability of their programs through the broadening of funding, as well as national, regional, international, academic and public/private partnerships.[95][96][97] Not all projects were closely linked to national surveillance systems. There were efforts to support DSN by regional bodies such as the EAC, the South African Development Community, and the New Partnership for Africa's Development and the Economic Community of West African States. The capacity of grant holders to attract their own funds would be strong evidence for independence and sustainability. It is equally important that new methods and One Health become embedded in academic curricula. This was achieved at SUA and partially at Makerere University, but needs further support and effort in other areas. Sustainability in research would be achieved by establishing young scientists as postdoctoral fellows and allowing them to develop a research group. Also emphasized was "ownership" of programs and ICT. Efforts were made to evolve from passive users to active collaborators in developing new tools and technologies in order to fortify regional sustainability. Financial support of the networks by regional governments was perceived as essential to achieve sustainability, but this is yet to be assured.

3.3.1.1 Rational and Regional Strategies

One of the challenges in sustainability was seen in local ownership in contrast to outside donors, particularly regarding conceptual and geographic scale-up of innovations in disease surveillance. In the pilot phase, external funding was an advantage to focus and develop relationships, but ultimately ownership should be taken over by national structures.

Africa is still dependent on expensive technologies and needs to find ways of accessing affordable, locally-owned technologies. Servers for data management, for example, should be owned and managed internally by the countries, and not externally. A challenge supporting ownership of ICT and data management tools within countries is reluctance in the ministries to transmit health information outside the country. Therefore, efforts are being made to establish servers and build capacity at the country level, for example in Tanzania. A legislative background could be created to better protect ownership, according to one interviewee.

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"… we probably have the highest bulk of the most infectious disease in the world. And therefore, we in this region as owners of that problem, must own the forces, but not do it in isolation. We have got to interest others in our problem."[98]

The use of fundraising as a strategy for long-term change was not emphasized. Possibilities were perhaps perceived as fully exploited. The EAIDSNet acquired a five-year grant of $23 million from the African Development Bank for disease control under climate change responses and health. They also acquired $63.6 million from the World Bank "to establish a network of efficient, high-quality, accessible public health laboratories for the diagnosis of tuberculosis and other communicable diseases," whereas $1.3 million was allocated for the EAC EAIDSNet. Other suggestions regarding sustainability included the recommendation that regional networks be coordinated by the African Union to create cohesion, prevent duplication and improve cost-effectiveness. There was a preference for long-term funding and an expansion of the scope of the initiative.

The exit strategy for the DSN Initiative should account for a transition to sustain activities and capitalize on investments. Grant work should be published in scientific journals recognizing the Foundation's contribution. Regional institutionalization, as in the MBDS regional network, e.g. through the Southern African Development Community (SADC), EAC and the Economic Community of West African States, requires more time. The Foundation should consider a five-year extension of the most promising academic and regional DSNs, and work actively toward their institutionalization.

According to interviewees with an academic background, ownership of capacity building might be increased by:

▸ **Africa-based training:** The approach of partnering with regional and local institutions was appreciated and sustainable (south-south cooperation rather than south-north cooperation).
▸ **Short exposure versus long-term training:** Short exposure to international research institutions was preferable to long-term capacity building abroad. Opportunities for students to visit "advanced" institutions were valuable, as they benefited from seeing the operation of other systems.
▸ **A mixed schedule of courses and work** (e.g. in a health district) allows acquisition of practical experience, giving students responsibility during training.

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3.4 Impact
3.4.1 Impact on Population Health

The impact of the DSN Initiative's grants was difficult to determine at this stage due to the short time period since the implementation of the activities. The achievement of some of the desired outcomes suggested that the impact on human and animal health will likely be felt in the future. Some impact of the capacity building components of the grants has been described, e.g. response of disaster management teams in Uganda to mudslides in Bududa near the Kenyan border. One stakeholder suggested that there has been a reduction in the morbidity of some communicable diseases due to improved surveillance at district sentinel sites leading to early detection and treatment. Through participatory epidemiology, some small rinderpest outbreaks were noted in South Sudan. Sensitization on AI increased reporting. Better reporting does not necessarily reduce incidence, but understanding of the disease improves. Despite improved surveillance, the response capacity remains very weak.

3.4.1.1 Reduction of Infectious Disease Rates

Clear evidence for improved population health was not yet shown in most projects. However, they were in an early stage of implementation. The evidence for improved effectiveness in addressing specific disease threats was summarized mainly in increased awareness and alertness, and understanding of the need to share information.

Indirect improvements were made. For example, in Tanzania, laboratory infrastructure of research institutions, e.g. the NIMR, has been strengthened and RVF and AI can now be diagnosed. Tanzania has established surveillance sentinel sites. These measures have clearly contributed to reinforce the national disease surveillance system. Research capacity on zoonotic diseases such as RVF is being increasingly built by engaging Ph.D. students and conducting specific trainings. These skills would be implemented during outbreaks. Likely, evidence for reduction of infectious disease rates would only be measured during an epidemic. But the potential for reduction could be considered. For example, successful investment in surveillance support and cross-sector exchange of data through the SACIDS network would enable quick response, thereby reducing disease rates. In another project, communities improved their response capacity to Newcastle disease in their poultry flocks,[99] which impacted infectious disease rates.

Evidence from the field was considered as important to convince policymakers to enhance policy guidelines in disease surveillance and preparedness.

One stakeholder considered advocacy as an important catalyst for enhanced surveillance function, through improvement of reporting systems. There has been improvement in the reporting system in Tanzania in the last few years, increasing coverage from 30 to 80 percent. It was felt that advocacy initiated these improvements.

3.5 Efficiency

3.5.1 Cost Effectiveness

Grantees agreed that resources were adequate for the initial project goals and capacity building. Additional funding would be necessary to support a broader scale-up phase. In some cases, proposal aims could not be fully implemented due to cost challenges incurred.[100] Single grantees indicated that the funding for budget line items was small and insufficient to sustain a field intervention in multiple countries. Cost efficiency could not be assessed without audits, but delays in project implementation due to lack of competitive proposals and university bureaucracy were mentioned.

3.5.2 Management and Governance

Current grants were relatively small. The Foundation might examine options for fewer, larger grants. However, the risk would be greater with larger grants.

3.5.2.1 Effective Management and Leadership

The Foundation's management support was perceived very positively. The convening and networking power of the Foundation was highly appreciated, and the Foundation's management support was viewed as less bureaucratic than with other donors. Grantees also indicated that the Foundation provided supportive monitoring and review of projects during implementation. They valued the opportunities the Foundation provided to meet with other grantees, especially the Bellagio meetings.

3.5.2.2 Efficient Management

The Foundation's leadership was perceived as open and relational rather than managerial. The grantees expressed satisfaction with the degree of flexibility and autonomy offered by the Foundation in decisions regarding priority areas, allowing for readjustments when challenges were encountered. Regional office and headquarters staff were thought to be very well-informed on both the field of DSN and grant-specific knowledge. There was a suggestion for the Foundation to strengthen the presence of technical staff on its team for the coordination of public health portfolios.

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3.5.3 Monitoring
3.5.3.1 Monitoring and Evaluation Practices

There was little evidence that monitoring, learning and adaptation was a focus of the portfolio. Monitoring and evaluation practices within grants were informal and not well documented.[101] One project held a midterm evaluation meeting with key actors.[102] Another grant reportedly had an overall monitoring framework to track progress towards targets set in the annual operational plan. However, this monitoring framework did not seem to be followed in practice.

3.5.4 Risk Management

There were no formal risk management plans identified.

3.5.4.1 Management of Programmatic Risks

Risk factors cited included institutional weaknesses, e.g. regarding bureaucratic delay processes. Financial risks were related to slow bureaucratic systems. For example, meetings were organized by the EAC, but participants from some countries did not receive clearance on time. Some of these risks were managed through patience and personal and institutional relations. Programmatic risk also related to lack of project leadership continuity. High staff turnover was noted at the level of project director. This problem was managed by PIs rather than by the Foundation. Another risk was lack of coordination of the grant cycle with university academic cycles. The Foundation was responsive to this problem through flexibility in extending grant deliverable timelines.

Risks encountered with capacity development activities were the weak technical background of participants at the trainings and difficulty with participants not completing training due to other engagements. These issues impacted the achievement of the expected training session outcomes. One grant evaluated the technical capacity and knowledge of trainers. A risk identified in one grant was failure to implement disaster-management plans, developed during the training sessions, because this was dependent on funding by ministries. It was not clear how this risk was managed.

Proposed Feedback to Participants of the Evaluation

All interviewees expressed a strong interest in the findings of the evaluation report. The evaluation team would welcome providing feedback to the interviewees.

REFERENCES

1 Bond, K., Namuddu, K., & Puentes, R. Looking at Our Work Through a Network Lens.
2 Rockefeller Foundation Board Docket 1999.pdf
3 Rockefeller Foundation—Board Paper—Disease Surveillance Networks Initiative Approval Document—2008.pdf
4 Rockefeller Foundation Disease Surveillance Networks Initiative Results Framework & Workplan—Dec2009.pdf
5 Press Release—Promoting Trans-national Collaboration in Disease Surveillance and Control (CHORDS)—April 2009.pdf
6 Rockefeller Foundation—TOR for the evaluation of the Disease Surveillance Networks Initiative in Africa—July 2010.pdf
7 Rockefeller Foundation—Board Paper—Disease Surveillance Networks Initiative Approval Document—2008.pdf
8 Rockefeller Foundation—Board Paper—Disease Surveillance Networks Initiative Strategy & Outcomes—Nov. 2009.pdf
9 Rockefeller Foundation—Board Update—Disease Surveillance Networks Initiative—June 2009.pdf
10 Richardson. T., & Fisher, D. (1999) The Development of the Social Sciences in the United States and Canada: The Role of Philanthropy. Ablex Publishing Corporation, Stamford, Connecticut.
11 Rockefeller Foundation grant document (grant # 2008 DSN 310)
12 Rockefeller Foundation grant document (grant # 2008 DSN 310)
13 Rockefeller Foundation grant document (grant # 2008 DSN 312)
14 Rockefeller Foundation Board Docket 1999.pdf
15 Rockefeller Foundation grant document (grant # 2008 DSN 307)
16 Rockefeller Foundation—Board Paper—Core Strategy—1999.pdf
17 Rockefeller Foundation grant document (grant # 2007 DSN 210)
18 Richardson, T., & Fisher, D. (1999) The Development of the Social Sciences in the United States and Canada: The Role of Philanthropy. Ablex Publishing Corporation, Stamford, Connecticut.
19 Evaluation interview
20 Five Years In, Gauging Impact of Gates Grants. The New York Times, December 21, 2010, D4.
21 Rockefeller Foundation grant document (grant # 2008 DSN 310)
22 Evaluation interview
23 Rockefeller Foundation—Board Paper—Core Strategy—1999.pdf
24 Evaluation interview
25 Evaluation interview
26 Rockefeller Foundation grant document (grant # 2008 DSN 310)
27 Rockefeller Foundation grant document (grant # 2009 DSN 305)
28 Rockefeller Foundation grant document (grant # 2008 DSN 310)
29 Rockefeller Foundation grant document (grant # 2009 DSN 305)

REFERENCES

30 Rockefeller Foundation grant document (grant # 2009 DSN 305)
31 Rockefeller Foundation grant document (grant # 2008 DSN 307)
32 Rockefeller Foundation grant document (grant # 2008 DSN 307)
33 Rockefeller Foundation grant document (grant # 2008 DSN 307)
34 Rockefeller Foundation grant document (grant # 2008 DSN 308)
35 Rockefeller Foundation grant document (grant # 2008 DSN 310)
36 Rockefeller Foundation grant document (grant # 2008 DSN 308)
37 Rockefeller Foundation grant document (grant # 2008 DSN 312)
38 Rockefeller Foundation grant document (grant # 2008 DSN 310)
39 Rockefeller Foundation grant document (grant # 2008 DSN 310)
40 Rockefeller Foundation grant document (grant # 2009 DSN 305)
41 Rockefeller Foundation grant document (grant # 2007 DSN 210)
42 Evaluation interview
43 Rockefeller Foundation grant document (grant # 2007 DSN 210)
44 Evaluation interview
45 Rockefeller Foundation grant document (grant # 2008 DSN 307)
46 Rockefeller Foundation grant document (grant # 2008 DSN 307)
47 Rockefeller Foundation grant document (grant # 2008 DSN 310)
48 Rockefeller Foundation grant document (grant # 2009 DSN 305)
49 Rockefeller Foundation grant document (grant # 2008 DSN 310)
50 Rockefeller Foundation grant document (grant # 2008 DSN 308)
51 Rockefeller Foundation grant document (grant # 2007 DSN 210)
52 Evaluation interview
53 Rockefeller Foundation grant document (grant # 2008 DSN 307)
54 Rockefeller Foundation grant document (grant # 2009 DSN 305)
55 Rockefeller Foundation grant document (grant # 2008 DSN 307)
56 Rockefeller Foundation grant document (grant # 2009 DSN 305)
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58 Evaluation interview
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60 Rockefeller Foundation grant document (grant # 2008 DSN 312)
61 Rockefeller Foundation grant document (grant # 2008 DSN 308)
62 Rockefeller Foundation grant document (grant # 2008 DSN 310)
63 Rockefeller Foundation grant document (grant # 2008 DSN 310)
64 Rockefeller Foundation grant document (grant # 2008 DSN 310)
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67 Rockefeller Foundation grant document (grant # 2009 DSN 305)
68 Evaluation interview
69 Rockefeller Foundation grant document (grant # 2009 DSN 305)
70 Rockefeller Foundation grant document (grant # 2008 DSN 310)

REFERENCES

71 Rockefeller Foundation grant document (grant # 2008 DSN 310)

72 Rockefeller Foundation grant document (grant # 2009 DSN 305)

73 Rockefeller Foundation grant document (grant # 2008 DSN 310)

74 Rockefeller Foundation grant document (grant # 2009 DSN 305)

75 Rockefeller Foundation grant document (grant # 2008 DSN 310)

76 Rockefeller Foundation grant document (grant # 2007 DSN 210)

77 Handbook of Transdisciplinary Research. (2007), Hirsch Hadorn, G., Hoffmann-Reim, H., Biber-Klemm S., Grossenbacher W., Joye D., Pohl, C., Wiesmann U., & Zemp E. (Eds.) (Springer, Heidelberg).

78 Zinsstag, J., Schelling, E., Wyss, K., & Mahamat, M.B. (2005) Potential of cooperation between human and animal health to strengthen health systems. Lancet 366, no. 9503:2142-2145.

79 Zinsstag, J., & Tanner, M. (2008) "One Health": The potential of closer cooperation between human and animal health in Africa. Ethiop.J.Health Dev. 22, no. Special issue.

80 Zinsstag, J., Schelling E., Bonfoh B., Fooks, A. R., Kasymbekov, J., Waltner-Toews, D., & Tanner, M. (2009) Towards a One Health research and application toolbox. Veterinaria Italiana 45, 121-133.

81 Evaluation interview

82 Rockefeller Foundation grant document (grant # 2008 DSN 307)

83 Evaluation interview

84 Rockefeller Foundation grant document (grant # 2008 DSN 312)

85 Rockefeller Foundation grant document (grant # 2008 DSN 307)

86 Rockefeller Foundation grant document (grant # 2009 DSN 305)

87 Rockefeller Foundation grant document (grant # 2009 DSN 305)

88 Rockefeller Foundation grant document (grant # 2008 DSN 312)

89 Coker, R., Rushton, J., Mounier-Jack, S., Karimuribo, E., Lutumba, P., Kambarage, D., Pfeiffer, D., Stärk, K., & Rweyemamu, M. (2010). Towards a conceptual framework to support One Health research and policy: health systems and the human-animal interface. The Lancet Infectious Diseases. (Accepted)

90 Rockefeller Foundation grant document (grant # 2008 DSN 310)

91 Rockefeller Foundation grant document (grant # 2008 DSN 310)

92 Rockefeller Foundation grant document (grant # 2009 DSN 305)

93 Evaluation interview

94 Rockefeller Foundation grant document (grant # 2008 DSN 310)

95 Rockefeller Foundation grant document (grant # 2008 DSN 307)

96 Rockefeller Foundation grant document (grant # 2008 DSN 307)

97 Rockefeller Foundation grant document (grant # 2009 DSN 305)

98 Evaluation interview

99 Rockefeller Foundation grant document (grant # 2007 DSN 210)

100 Rockefeller Foundation grant document (grant # 2008 DSN 307)

101 Rockefeller Foundation grant document (grant # 2009 DSN 305)

102 Rockefeller Foundation grant document (grant # 2008 DSN 310)

Annex A: Terms of Reference

Introduction

This document provides an overview of the Scope of Work and the Terms of Reference of the External Evaluation of the Rockefeller Foundation's Disease Surveillance Networks (DSN) Initiative in Africa to be undertaken during the period of June 1, 2010 through December 31, 2010.

Background

In 2008, the Board of Trustees of the Rockefeller Foundation approved $21.3 million in support for the Disease Surveillance Networks (DSN) Initiative with the aim of achieving the following objectives:

[1] Improve human resources for disease surveillance in developing countries, thus bolstering national capacity to monitor, report and respond to outbreaks;
[2] Support regional networks to promote collaboration in disease surveillance and response across countries; and
[3] Build bridges between regional and global monitoring efforts.

Intended Outcomes of the DSN Initiative

At the initial stages of the Initiative the outcomes were stated as:

▶ Improved competencies (skills, capacities) in the Greater Mekong Sub-region and East and Southern Africa to conduct disease surveillance and response efficiently and improve capabilities in trans-border collaboration across countries;
▶ Global collaboration and learning among regional disease surveillance networks worldwide; and
▶ Collaboration between regional disease surveillance networks and international agencies to increase the efficiency of global systems for disease surveillance and response.

The recent RF Results Based Framework for DSN provides a clearer articulation of the major outcome areas of the DSN Initiative.

▶ **Outcome 1—(Networks).** Transboundary disease surveillance networks in Southeast Asia, and in East and Southern Africa are formed, sustained and evolve to enable disease surveillance practitioners to collaborate, share information, and learn how to more effectively address disease threats.
▶ **Outcome 2—(Capacity).** Disease surveillance practitioners and their institutions strengthen and apply and distribute technical and communication skills in disease surveillance to more effectively address disease threats.
▶ **Outcome 3—(Tools).** Disease surveillance practitioners have increased access to, and use improved tools and methods to effectively and efficiently monitor, share and report information, and to respond to disease threats.

▶ **Outcome 4—(Trans-disciplinary leadership—"One Health").** Policy makers, human health and veterinary practitioners take a trans-disciplinary approach to policy and practice in animal and human health emphasizing the One Health principles at global, regional and local levels.

▶ **Outcome 5—Organizational excellence, accountability and learning.** The DSN team operates effectively, efficiently, provides leadership in RF, contributes to the RF Mission, is relevant and accountable to its stakeholders and learns from its monitoring and evaluation.

Total DSN Grant Making to Date

Over four years from 2007-2011 the Rockefeller Foundation, in partnership with others, intends to help equip developing countries with the tools and human and institutional capacities to improve disease surveillance and response. Of the total $21.3 million approved for the DSN Initiative, $16 million has been awarded in 43 grants as of December 31, 2009. The remaining funds will be awarded in grants in 2010 and 2011.

▶ **Africa:** Of the $16 million awarded to date, a total of $4.5 million has been awarded for DSN work in Africa: $3.5 million to institutions in Kenya (3), Tanzania (3) and Uganda (2), with an additional $1 million awarded to northern institutions working on disease surveillance and related issues in Africa.

▶ **Global:** Grants totaling $2.5 million have been awarded to institutions in the U.S., Canada and Europe for related work that is global in scope.

▶ **Asia:** Grants totaling $9 million have been awarded to institutions in Asia, including some to northern institutions working on DSN-related issues in Asia.

Purpose and Objectives of the Africa Region DSN Evaluation

The purposes of the evaluation are learning and accountability:

[1] Learning from the experience of DSN investments in Africa to inform the work and strategy of the Foundation, its grantees and the broader field of disease surveillance. More specifically, the Evaluation will inform future directions and strategies for current areas of Foundation Initiative work, particularly in Africa, as well as highlight potential new areas of work and strategy; and

[2] Accountability to the Board of Trustees, staff and Foundation stakeholders for the DSN funds invested in the DSN Initiative in Africa.

The main objectives of the evaluation are:

[1] To assess the relevance, effectiveness, efficiency, influence and sustainability of the Rockefeller Foundation's support to the work of the Disease Surveillance Networks Initiative in Africa.

Annex A: Terms of Reference

[2] To assess the underlying hypothesis of the Initiative that robust trans-boundary, multi-sector and cross-disciplinary collaborative networks lead to improved prediction and detection disease surveillance and response. Specifically, improved surveillance and response will include assessment of accuracy of information (in person, place, time) as documented by surveillance assessments, or outbreak investigations during the term of the Initiative. The evaluation will not undertake formal disease surveillance system evaluation, but will exploit secondary data sources for such assessment.

[3] Make forward looking recommendations to the Lead Evaluator and to the Foundation on:
   a. The implications of the achievements, challenges and lessons from the DSN Initiative in Africa for the strategy and work of the Rockefeller Foundation in Africa. This could include lessons for specific fields of work (health, urban, climate, etc.) as well as lessons for Initiatives and grantees that aspire to build and sustain networks, build capacity, and influence policy in Africa;
   b. Priority linkages and synergies for DSN learning to benefit the RF Regional Office for Africa, the work of other RF Initiatives in Africa, and key RF partners in Africa.
   c. Key priorities for funding and partnerships to sustain the gains made by the Foundation in the field of disease surveillance networks in Africa.
   d. Other implications as identified.

The evaluation also aims to contribute to the field of philanthropy by demonstrating the use of evaluations in grantmaking, learning and knowledge management, and by informing the field of development evaluation and assessment about methods for assessing complex networks.

Components of the Evaluation

The Africa DSN Evaluation is one component of the overall Global External Evaluation of the DSN Initiative. The components are:

[1] A summative and prospective evaluation of DSN Initiative work in the Mekong Region (being conducted by SEAMEO-TropMed from October 2009 through July 2010).

[2] A summative and prospective evaluation of DSN Initiative work in East and Southern Africa to be conducted from June through December 2010 (the subject of this TOR—grantee to be identified).

[3] A summative and prospective global level strategic evaluation of the influence of the DSN Initiative globally with key policy partners, funders, practice leaders, and Rockefeller Foundation-New York (being conducted by the University of Washington, School of Public Health from August 2009 through December 2011).

The Africa and Asia DSN External Evaluations will be both stand-alone products but will also contribute to the overall global findings of the Global Evaluation. The Lead Global Evaluation grantee is expected to synthesize the results of the Asia, Africa and Global Evaluation components into a final Evaluation Synthesis Report to be delivered to the Foundation in early 2012.

Annex A: Terms of Reference

Audiences for the Evaluation

The Global DSN External Evaluation is commissioned by the President and Executive Management Team of the Rockefeller Foundation and managed by the Foundation's Evaluation Office. The Africa and Asia components of the Evaluation are commissioned by the Evaluation Office of the Foundation, and managed by the Global Evaluation grantee in close cooperation with the Evaluation Office. The RF regional offices for Asia (Bangkok) and Africa (Nairobi) play a supportive role in assisting with the implementation of the regional evaluations as needed.

The primary audiences for all components of the evaluation are the President, the Board of Trustees of the Foundation, the Executive Management Team of the Foundation, and the global and regional Managers of the DSN Initiative. Secondary audiences are the DSN grantees, partners and other funders in the field of disease surveillance.

Scope of the Evaluation

The evaluation includes:

▶ All DSN grantmaking activity of the Rockefeller Foundation to institutions in East and Southern Africa, as well as grants made to institutions outside of Africa for work aimed at achieving or advancing the broad objectives of the DSN Initiative in Africa, including grants pertaining to "One Health", Health Diplomacy, and disease surveillance enhancement. (See Annex 1 to the RFP for the list of grants).
▶ The work of the DSN Team and Regional Office in leading and building relationships in the field of disease surveillance, promoting the One Health Approach, convening Bellagio forums, and other non-grant work.

Context for the Evaluation

The emergence of infectious diseases such as HIV/AIDS, Ebola, SARS, highly pathogenic avian influenza and swine flu is driven by several factors. Increased viral adaptation, population density, cross-border mobility and connectivity within the ecosystem, close proximity with animals, changing animal consumption and production patterns, and ecological shifts because of climate change allow the rapid spread of disease among and between animals and humans, creating particular risks for the health and livelihoods of poor people and raising concerns about national security, safety of the food chain, and overall global public health.

Early detection and containment by effective disease surveillance networks is critical to arresting pandemics in their early stages. Disease surveillance in most developing countries today is highly inadequate, with there being great variation in the quality of the disease surveillance systems. Surveillance systems in most developing countries may be deficient due to lack of

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resources, training, policies, or inadequate data collection methodologies. This prevents effective responses to outbreaks and pandemics and undermines efforts to build resilience to threats to the health and livelihoods of poor or vulnerable people.

In Africa, where networks have uniformly embraced the One Health principle—integrating human, veterinary, and wildlife health officials and scientists—the Rockefeller Foundation is focusing on translating promising approaches from the Mekong region of Asia to existing and nascent networks in East and Southern Africa. Methodologies and approaches tested in the Mekong region are now being applied in East and Southern Africa. For example, the East African Community, with technical input from the RAND Corporation, conducted the region's first pandemic preparedness simulation planning, which is helping to build capacity at regional and cross-border levels to make strategic plans operational.

The Southern Africa Centre for Infectious Disease Surveillance (SACIDS)—an organization that grew out of the U.K. Foresight project and a Rockefeller Foundation-supported meeting in 2007 at its Bellagio Center, to cover countries in the Southern Africa Development Community (SADC)—is working with partners in Southeast Asia and the London School of Hygiene and Tropical Medicine to apply resource mapping efforts to optimize efficiencies in surveillance. The new network is a strong advocate for One Africa, One Health and improved surveillance capacity, and the Rockefeller Foundation's support has catalyzed funding from Google.org and the Wellcome Trust.

Each individual grantee in East and Southern Africa has already established connections with their Mekong-based counterparts. Collectively, they make up CHORDS (Connecting Health Organizations for Regional Disease Surveillance), which also includes other regional surveillance networks. CHORDS was launched with Rockefeller Foundation support by the Global Health and Security Initiative (GHSI) at the Nuclear Threat Initiative meeting in Washington, D.C. in April 2009.

Performance Areas and Key Evaluation Questions

The main performance areas and key evaluation questions to be covered in the Africa Evaluation are as follows, and will be further developed in an Evaluation Matrix to be developed and refined during the planning phase of the Evaluation. The Matrix will be aligned with the global Evaluation Matrix and to that of the Asia DSN Evaluation.

[1] **Relevance**—includes rationale, niche, leadership role, comparative advantage and value added of the Initiative in East and Southern Africa.
   a. The extent to which the Initiative is relevant to:

▶ state of the art/leading-edge thinking and trends in disease surveillance and response in Africa.

▶ the areas of work of the Foundation in Africa and globally.

▶ the Stakeholders of the region.

b. The extent to which the Rockefeller Foundation Initiative occupies a niche and plays a leadership role in the field of health in East and Southern Africa.

c. The value added of the Initiative to regional collaboration in disease surveillance in Africa, and to the work of other Foundation Initiatives in Africa.

d. The comparative advantage of the Foundation in the field of disease surveillance in Africa.

[2] **Effectiveness**—includes an assessment of the results of the Initiative in East and Southern Africa. This includes an analysis of the products and services planned and provided, the changes or outcomes that have occurred, as well as the impact the Initiative has had on people and systems in the region. More specifically the evaluation will explore:

a. The quality and quantity of planned products and/or outputs associated with the grants provided by the Foundation in East and Southern Africa.

b. The extent to which the outputs or products are used by target users in the region.

c. The achievement of objectives and outcomes specifically as they relate to:

▶ Improved human resources for disease surveillance in developing countries, thus bolstering national capacity to monitor, report and respond to outbreaks;

▶ Support regional networks to promote collaboration in disease surveillance and response across countries; and

▶ Build bridges between regional and global monitoring efforts.

d. The extent to which early detection and containment of outbreaks with pandemic potential resulted from the work of the Initiative in the region.

▶ The extent to which Africa DSN grantees detect, report and respond to health and human security threats (primarily disease outbreaks) more broadly and efficiently.

▶ The extent to which there is an increase in the number and geographic coverage of outbreaks reported within the region.

▶ Changes in the time to report outbreaks in East and Southern Africa.

▶ Whether the responses have been adequate among the DSN partners.

e. The extent to which the Initiative built capacity at the individual, institutional and network levels in the region, including an analysis of the extent to which the strategy of the Initiative contributed to better detection and management of disease outbreaks in East and Southern Africa.

This includes the capacity to detect and control outbreaks through:

▶ Optimal use of human resources

⇨ *Are resources analyzed and deployed more efficiently to correspond to patterns of outbreaks and disease spread, and to avert future outbreaks?*

⇨ *Are public health staff and communities skilled at adequate levels to detect and report?*

▶ New communication tools and analytics

⇨ *Does information technology support efficient reporting horizontally and vertically?*

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> ⇨ *Were new technologies developed/adapted to meet needs at all levels?*
>
> ⇨ *Are new technologies more widely accessible?*

▶ New collaborative approaches to emerging priorities

> ⇨ *Have new models of trans-national and trans-disciplinary collaboration, new competencies, and new ways of working emerged or evolved?*

▶ Regional surveillance networks

> ⇨ *Were sub-national and national human resource and adaptive capacity strengthened?*
>
> ⇨ *Were new normative practices and expectations established to comply with the International Health Regulations in reporting diseases of international concern and collaborating in the response?*
>
> ⇨ *How have lessons learned been applied or translated to other regions (across MBDS, EAIDSNET, SACIDS, others)?*
>
> ⇨ *To what extent have new bodies such as CHORDS been effective in bolstering efficacies in outbreak responses?*
>
> ⇨ *The sustainability of new networks and the lessons for increased efficacy of these networks?*

▶ Regional and Global collaboration

> ⇨ *Leveraging other donors—How has DSN helped to reduce fragmentation among donors in East and Southern Africa and globally?*
>
> ⇨ *What additional resources have contributed to common goals in Africa?*
>
> ⇨ *Health diplomacy—How have DSN processes contributed to building trust and collaboration across boundaries?*

▶ One Health Leadership

> ⇨ *Has the capacity of leaders to champion the One Health concept and to change practice and policy in Africa increased, and if so, in what ways?*

f. The degree of policy influence that the Initiative has had on policies, public discourse, and practices in the fields of public health, disease prevention and development in Africa, and specifically East and Southern Africa. The specific issues to be addressed are:

▶ To what extent has the Initiative created policy frameworks that have reduced fragmentation of the Africa region?

▶ To what extent are there new specific plans as a result of the Initiative's work to influence policy in the countries of East and Southern Africa?

▶ Are there examples that demonstrate how the policies influenced by the Initiative affected practice in countries in East and Southern Africa?

▶ To what extent has the Initiative expanded the policy capacity and broadened policy horizons of network participants in East and Southern Africa?

▶ To what extent has the Initiative influenced policy at the institutional level in Africa?

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[3] **Efficiency**—is an assessment of the use of resources to obtain results. To what extent is the Rockefeller Foundation using best management and governance practices, and are those practices providing good value for money? The specific issues to be addressed are:

    a. To what extent was the Africa component of the DSN Initiative effectively and efficiently planned both strategically and operationally?

    b. To what extent did the Initiative provide effective management and leadership of the Initiative in Africa internally and externally with grantees and partner organizations (vision, management, leadership, mentoring, etc.)?

    c. To what extent was the DSN Africa grant portfolio efficiently managed in order to deliver the work of the Initiative – picking the right grantees, assessing capacity, developing and supporting the delivery of results?

    d. Were the resources of the Initiative in Africa adequate for the goals, and used in the most cost effective manner to achieve the intended outcomes?

    e. Did managers adequately search for the most effective and efficient delivery mechanisms in Africa?

    f. Were sound M&E practices used in Africa?

    g. Were learning systems planned and implemented to ensure useful public goods in Africa?

    h. Were these public goods shared broadly across other RF Initiatives and within the disease surveillance community?

[4] **Impact**—refers to an assessment of the impact that the Initiative has had on people and systems in East and Southern Africa. Ideally (provided there is monitoring and baseline data) this will include an assessment of the extent to which DSN has contributed to (or directly affected) improvements in the lives of poor and vulnerable people within the broader population served by the work of African grantees. In addition, if data is available, this will also include an assessment of the impact on the systems within which poor and vulnerable people depend (environmental, social, economic, cultural, political, etc).

[5] **Sustainability**—refers to the extent to which the Initiative can develop both financial and/or institutional supports to continue the work started by the Initiative in East and Southern Africa. Specifically, the extent to which:

    a. The efforts (outputs and outcomes) of the Initiative are embedded in ongoing practices of people, institutions and communities in the region.

    b. The strategies adopted by the Initiative, including an exit strategy, create a high probability of the main outcomes of the Initiative continuing beyond Rockefeller Foundation funding in East and Southern Africa.

    c. Expanded partnerships exist for scaling up the work in Africa and sustaining the Initiative beyond the Rockefeller Foundation's support.

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Methodology

The methodology for the Africa DSN Evaluation will mirror and be aligned with the methodology for the Global Evaluation and the DSN Asia Evaluation so that these components complement each other and enable the results to be synthesized.

As with the Global and Asia Evaluations, mixed methods will be used to conduct the evaluation, including grant portfolio reviews, interviews, field visits, surveys, desk studies, case studies, and focus groups.

▶ **An analytical review of the Portfolio** of the grants funded under the DSN Initiative in Africa, as well as to grantees outside of Africa, but whose work pertains to DSN activities in Africa and globally. (The sampling strategy for this will be determined in the planning phase of the Evaluation.)

▶ **Field visits** to a purposeful sample of the DSN funded work of grantees in East and Southern Africa. The field visits will enable the evaluation team to observe work practices in the sites, utilization of tools, gather pertinent documents for the desk study/literature review and for the conduct of interviews of partners/grantees and focus group discussions with different groups of stakeholders.

▶ **Stakeholder interviews** with:
  ⇨ *disease surveillance leaders, policy makers and practitioners in East and Southern Africa*
  ⇨ *partner organizations and other funders in Africa*
  ⇨ *RF managers in Africa and in New York—both from the DSN Initiative as well as related Initiatives.*

▶ **Desk study** of relevant documents including:
  ⇨ *Country level documents- country health/animal strategic plans, policy statements, training documents, health indicators, archived disease surveillance assessments, disease outbreak reports, HRD plans, scientific papers;*
  ⇨ *Regional level – SACIDS, EAIDSNET, etc. work plans and reports, meeting proceedings, mapping exercises, table top exercises; Other regional organization documents relevant to disease surveillance and key questions of the evaluation such as IDSR AFRO/CDC regional network, AFRO policy statements, African Union policy statements etc.;*
  ⇨ *RF grant documents- grant proposals/plans, progress reports, summative/final reports, grant letters, relevant regional trip reports, workplans, conference reports, financial reporting, budgets, monitoring reports, etc.; and*
  ⇨ *Journal articles/scientific papers relevant to DSN in Africa.*

▶ **Focus Groups** with participants of training courses, users of tools, implementers of activities relevant to key evaluation questions in the different sites. The exact number of interviews and focus groups to be conducted per site will be determined during the planning phase of the evaluation.

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▶ **Case Study(s)** to illustrate specific aspects of DSN learning in Africa that is of particular interest or significance to RF and the field of disease surveillance.
▶ Other methods to be determined.

The sampling strategy for in-depth review of grants, desk review, focus groups and field visits will be determined in the planning phase of the evaluations with the Lead Evaluator. However, in general, sampling will be purposeful, focusing on a selection of grants that explicitly state that they expect to contribute to the objectives and outcomes of the Initiative.

In addition to primary data collected from the portfolio review, interviews, questionnaires and focus groups, data from other sources such as country health indices (e.g. country specific mortality rates), archived disease surveillance assessment and disease outbreak reports, and monitoring and evaluation of related programmatic elements will be identified and brought into this evaluation effort as appropriate to address the key evaluation questions.

The Evaluation Matrix to be developed in the planning phase by RF and the Lead Evaluator with the Africa grantee, will identify the data sources to be used to address the specific evaluation questions.

Evaluation Team

The Africa Grantee will be responsible for assembling and managing an evaluation team with extensive experience in the areas of:

▶ Evaluation in countries of DSN work in East Africa including (Kenya, Uganda, Rwanda, Burundi, Tanzania, DRC, Ethiopia) and Southern Africa (South Africa, Zambia, Mozambique, Botswana)
▶ The use of qualitative and quantitative methods, survey techniques, inventory, observation and desk review
▶ Complex program evaluation in Africa
▶ Network evaluation in Africa
▶ Disease Surveillance knowledge and experience in Africa
▶ Evaluation of One Health approach in Africa
▶ Evaluation of health policy, health diplomacy in Africa
▶ Knowledge of, and evaluation experience in, development globally and in Africa
▶ Management of complex evaluations
▶ Communication, interviewing and facilitation skills
▶ Technical discipline backgrounds for team members should include, but not be limited to:
   ⇨ *Program Evaluation*
   ⇨ *Epidemiology and public health*

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      ⇨ *International development and public policy*
      ⇨ *Social sciences*
      ⇨ *Biostatistics*
      ⇨ *Veterinary public health*
      ⇨ *Information technology*
      ⇨ *Other areas as identified.*
▶ Ability to conduct evaluations in English and write reports in English.

In general the team will have extensive experience in conducting large program evaluations in Africa, and in the operational aspects of disease surveillance in the East and Southern Africa region. The majority of evaluation team members will be based in Africa. The Team Leader of the Evaluation will have extensive experience in managing large program evaluations in Africa. Please see the Request for Proposals for further details of expected qualifications.

Management of the Evaluation

The Grantee selected to conduct the Africa DSN Evaluation will be responsible for the management of the evaluation and will be accountable for the timely delivery of high quality evaluation products within budget to the Rockefeller Foundation, and to the Lead Evaluation Grantee, the University of Washington.

The Team Leader for the Africa DSN Evaluation will be responsible for managing and conducting the Evaluation in coordination with the Lead Evaluation grantee who holds the responsibility for the synthesis of all three evaluation components (Global, Asia and Africa evaluations). The Africa DSN Evaluation Grantee will be responsible for maintaining close coordination and communication with the Lead Evaluator, the Foundation's Evaluation Office, the DSN Team and the Africa Office.

The attached Scope of Work and TOR for the Global Evaluation sets out in detail the roles of the Lead Evaluator, the Regional Grantees, the RF Evaluation Office and the RF Regional Offices.

Milestones and Deliverables

Based on the Scope of Work in this document, the Africa DSN Evaluation Grantee is required to:

[1] Manage the Africa evaluation of the Rockefeller Foundation's support to the Disease Surveillance Networks (DSN) during the period, June 1, 2010–December 30, 2010, as described in this document.
[2] Conduct a summative and prospective evaluation focused on the Performance Areas and questions outlined in this document.
[3] Make recommendations to the Foundation on:

a. the implications of the achievements, challenges and lessons from the DSN Initiative for the strategy and investments of the Rockefeller Foundation at a global and region level;

b. priority linkages and synergies for DSN learning to benefit the work of other Initiatives, regional offices, and key partners; and

c. key priorities for funding and partnerships to sustain the gains made by the Foundation in the field of disease surveillance networks.

Timeframe

The Africa DSN Evaluation will be designed during June 2010 and the evaluation conducted from July through December 2010. An indicative schedule for the evaluation is as follows. This will be refined during the grantee selection process and in consultation with the RF Africa Office and DSN Team.

Date	Deliverables and Milestones
April 2010	▸ RFP process for Africa Evaluation grantee ▸ Evaluation Proposal , CVs of Evaluation Team
May 2010	▸ Grant awarded
June 2010	*Design Phase* ▸ Detailed Evaluation Matrix, Workplan and Methodology (data collection strategy, interview protocols, criteria for Portfolio Review, criteria for selection of grantee field sites) ▸ Data collection instruments ▸ Detailed budget and level of effort for team members
July-August 2010	▸ Portfolio Review ▸ Data collection, analysis, write-up
August–October 2010	▸ Field Visits, possible case study
October 2010	▸ Data Analysis
Mid November 2010	▸ Draft Report to Lead Evaluator and RF Evaluation Office
End November 2010	▸ Presentation—Preliminary Findings to Lead Evaluator and RF Evaluation Officer
Mid December 2010	▸ Final Report, including an Executive Summary and Power Point summary of the key findings and messages suitable for presentation to the management team of the Foundation and the Board of Trustees.
Within 2 months after December 31, 2010	▸ Final narrative and financial reports submitted to the Rockefeller Foundation (if not submitted earlier), as per the terms of the Grant Agreement.

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