

Capacitating One Health in Eastern and Southern Africa (COHESA) Stakeholder Net-mapping-Kenya

A joint event organized by the COHESA consortium

Validated Report



Photo credit: Ezekiel Ng'ang'a_ISAAA AfriCenter

May 2022 (Net-mapping workshop) and Sep 2022 (Validation meeting)

Introduction

One Health (OH) is a collaborative multisectoral and transdisciplinary approach that aims to sustainably balance and optimize the health of humans, domestic and wild animals, plants, and the wider environment, which are closely linked and interdependent [1]. In Africa, OH faces a number of challenges in its implementation, some of which revolve around capacity both at the technical and societal level, leading to unsustainable and scattered One Health efforts. Other key issues such as lack of cross-departmental collaboration; inability to adapt health solutions to the national context and effectively cascade solutions down to final beneficiaries; inadequate research infrastructure, limited funding, as well as weak integration of efforts, are significantly contributing toward ineffective implementation of the OH approach.

Given its multi-faceted nature, the One Health approach operates in a complex network with many interacting elements. Therefore, understanding relationships and interactions within the OH ecosystem is important in addressing some of the fundamental and practical challenges limiting key aspects that are integral to a successful OH approach.

The Capacitating One Health in Eastern and Southern Africa (COHESA) project will attempt to address some of these limitations by equipping countries in Eastern and Southern Africa with the ability to identify and assess OH threats, and to rapidly develop, adapt, adopt and deliver solutions. To begin with, COHESA will conduct a detailed baseline assessment of the OH landscape in focus countries. This assessment will help in assessing sectoral performance, identifying capacity gaps and bottlenecks in the systems-wide management of OH issues, as well as relationships among actors [2]. One of the baseline assessment tools applied under this action is net-mapping, a reflective exercise that helps to understand, visualize and discuss situations that involve several actors within a complex ecosystem.

At the core of Kenya's OH ecosystem lies the Zoonotic Disease Unit (ZDU), the country's de facto OH platform which also serves as a model for other countries in the region. It was formed in 2012 by a memorandum of understanding between the Ministry of Health and Ministry of Agriculture Livestock Fisheries and Co-operatives. Other experts from different fields and entities are co-opted on a need basis, while animal and human health

coordinators are present in devolved units. The ZDU has a [One Health strategic plan](#) with a vision to establish and retain active collaboration of animal-human ecosystem interface towards better prevention and control of zoonotic diseases [3]. This report highlights outcomes from a net-mapping conducted in Kenya, aimed at identifying and mapping out key stakeholders that will influence the integration and effective implementation of OH-related policies, as well as defining their relationships within the ecosystem.

Methodology

We used the net-mapping tool to understand, visualize and discuss the One Health network in Kenya, which is influenced by several actors. The tool was developed by International Food Policy and Research Institute (IFPRI) and is facilitated by certified net mappers. It is a reflective, interview-based mapping tool that can help individuals and groups within a network clarify their own view of a situation, foster discussion and develop a strategic approach to their networking activities. The process helps to determine what actors are involved in a given network, how they are linked, as well as how influential they are. [4] Determining such fundamental issues within a complex multidisciplinary network such as OH paves way for strategic engagement and action.

The net-mapping exercise relies heavily on a thorough understanding of the network being analyzed. As a result, purposive sampling was used to recruit participants since their selection determines the quality of the net map. This sampling technique enabled us to identify and select respondents that are experienced and knowledgeable about the One Health landscape in Kenya. According to Palinkas *et al.* (2015) [5], the importance of respondents' availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner should also be factored. Other considerations, to ensure multisectoral and multidisciplinary participation, were taken into account, as well as gender and level of involvement in the OH sector.

The workshop was held on 17, 18, and 31 May 2022 at Movenpick Hotel, Nairobi. The participants are key players in the country's One Health related entities and have a good grasp of the OH concept. They were drawn from government key-line Ministries, Universities, National Research Institutes, and International Research Institutions with the help of a local multiplier¹ based at the University of Nairobi. To enable effective discussions and engagements, a total of 13 (7 female and 6 males) participants attended the net mapping workshop in Kenya. 3 participants came from the University of Nairobi, 1 from the Ministry of Agriculture, 3 from the National Research Institute, 2 from International Research Institutes, 2 from the Council of governors, 1 from the Zoonotic Disease Unit (representing the Ministry of Health), and 1 from the Commission for University Education. They comprised of animal health experts, food safety experts, a medical Epidemiologist, social scientists, botanists, environmentalists, and county legal advisors.

The net-mapping exercise was guided by an agenda that introduced participants to the COHESA project as well as provided a status update on the country's OH landscape. The subsequent steps involved include setting a specific country goal, identifying key OH actors, defining and creating the linkages between the OH actors and finally setting up the influence towers from the created linkages. Prior to the creation of linkages, perceived influence for the identified key actors was plotted in a stakeholder grid which was later compared to the real influence towers determined by the net map.

i. OH goal

Participants set the goal for Kenya OH as integration and effective implementation of the existing OH-related policies. The guiding question for the net-mapping exercise was agreed upon as **“Who will influence the integration and effective implementation of One Health-related Policy in Kenya?”**

¹ Multipliers in the COHESA project have the legal status of university and are, in most cases, the longest established, and highest reputation university working at the agriculture, ecosystem and health interface in their respective countries.

ii. Identification of OH actors in Kenya

Specific key actors were identified, grouped into sectors, color coded and plotted on a stakeholder grid based on participants' perception of the actors' interest and influence on One Health in the country (shown in Figure 1)

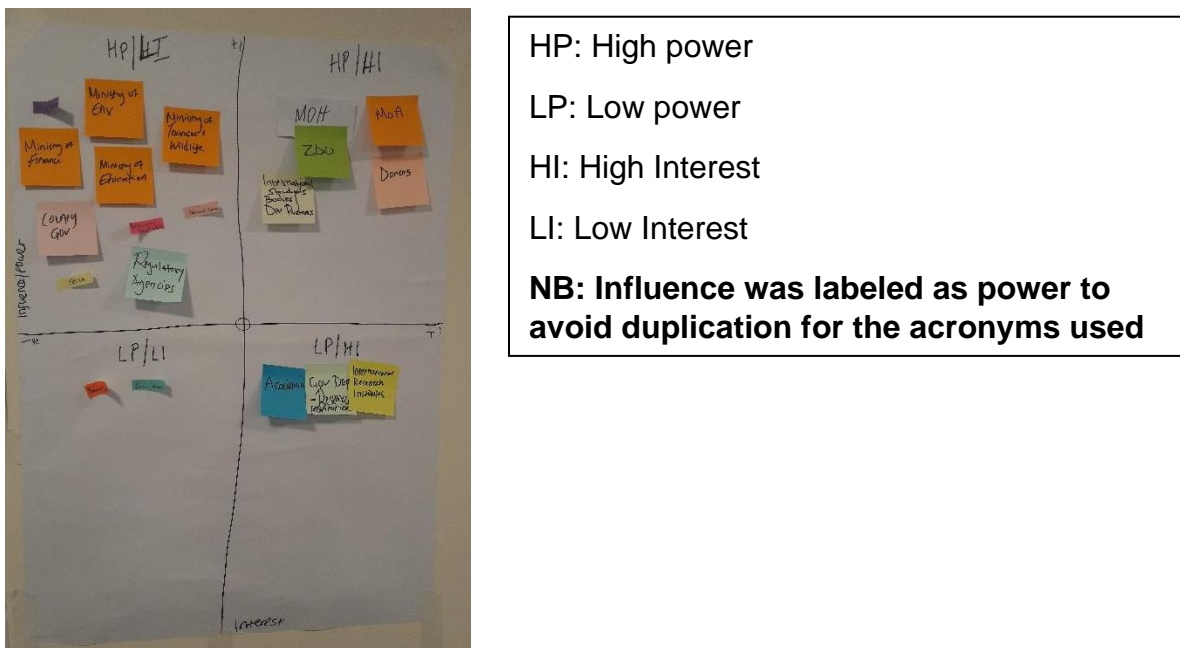
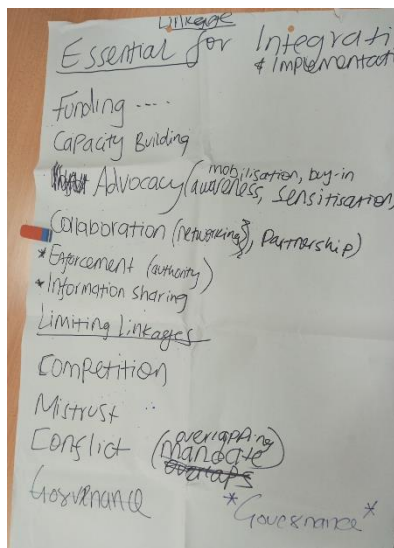


Figure 1 Stakeholder grid showing interest and influence in OH

iii. Defining relationships between stakeholders

Types of interactions or links that exists among the actors relevant to the goal were discussed, synthesized and color coded. To focus the discussion, essential and limiting linkages towards the goal were deliberated upon. Essential linkages were well defined and plotted on the net-map, while the limiting ones were noted and mentioned in the discussion section of this report. After an extensive brainstorming session, participants settled on funding, capacity building, advocacy, and collaboration as the essential linkages needed to achieve our goal, of advancing to the next step of the net-mapping process.



Collaboration: Formal partnership with an MOU and co-production

Funding: Provision of funds (salary, grants, budgetary allocation) for OH activities

Capacity building: Development of skills and infrastructure to support One Health

Advocacy: Proactive creation of buy-in, awareness and sensitization

Figure 2 Identified linkages (left image) and the discussed linkages (right)

iv. Drawing the linkages and influence towers

Collaboration, funding, capacity building and advocacy were color coded and the linkages drawn using connecting lines and arrows with predefined color codes typifying the types of interactions between key actors previously plotted on the stakeholder grid. Arrows point to where the interaction is being applied e.g. an arrow from actor A towards actor B in capacity building implies that actor A builds the capacity of actor B. Two-way interactions were represented using double-sided arrows as shown in Figure 3. Collaboration being a mutual linkage automatically has a two-sided arrow. The number of connections in and out of each actor was computed based on the arrow directions, and a factorial allocation of influence towers was agreed upon, based on the number of connections. Actor(s) with the highest number of towers were defined as the most influential stakeholders. A comparative analysis of these levels of influence was done with the participants' perceived levels of influence plotted on the stakeholder grid. These findings were then translated into a digital map using the visualizer application software [6]. The colored lines represent essential linkages that were identified as fundamental to achieving the desired goal.

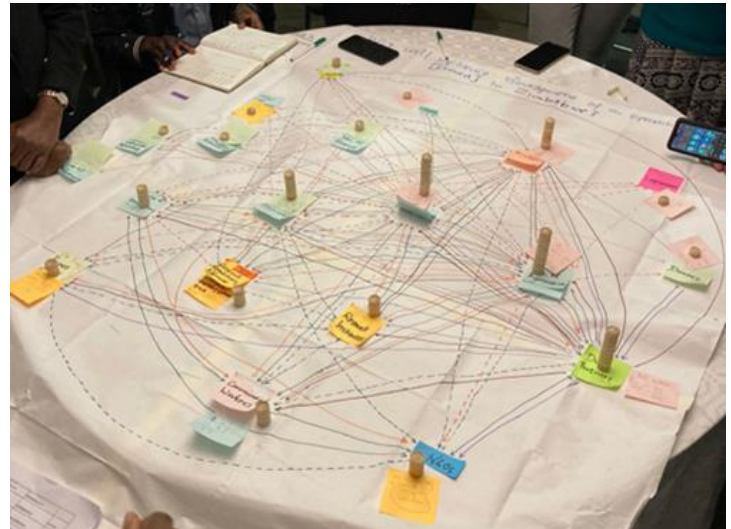
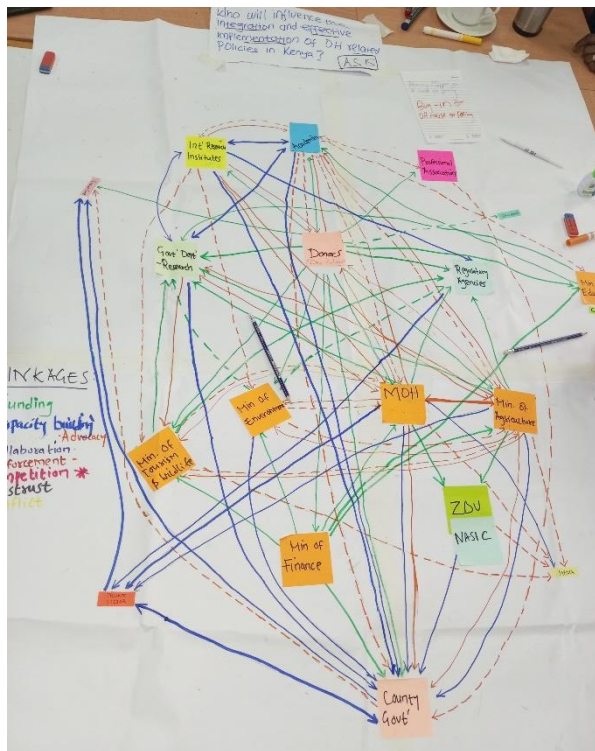


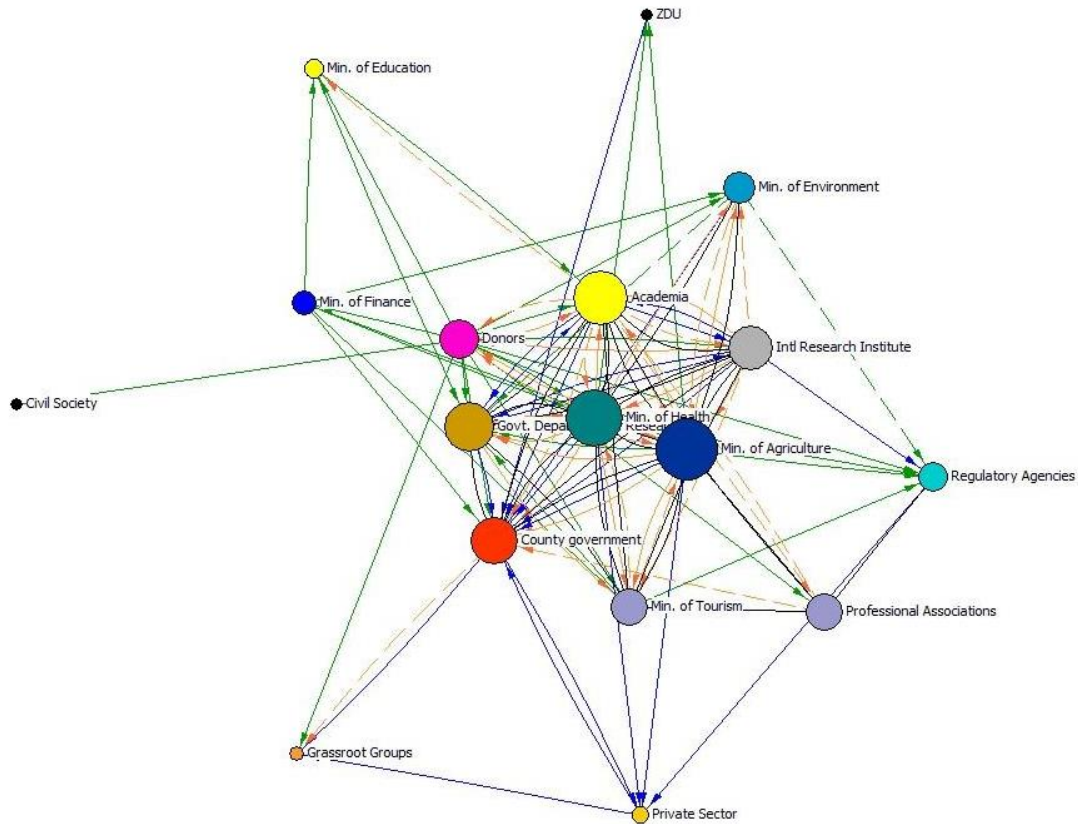
Figure 3 Connection between key OH actors in Kenya and their influence towers on the right

Net Mapping Results

i. Key stakeholders and their linkages

Actors	Links
1. Government key-line ministries	1. Funding (direct injection of funds)
2. Government departments of research	2. Collaboration (Structured and formal partnership with co-production or an MOU)
3. County Government	3. Capacity-building (Development of skills or infrastructure)
4. Regulatory agencies	4. Advocacy (Proactive creation of buy-in, awareness, and sensitization)
5. International research Institutions	
6. International standard bodies	
7. Donors	
8. Academia	
9. Media	
10. Grassroots groups	
11. Civil societies	
12. Private sector	

ii. Overall Net-map of Kenya OH linkages among key actors



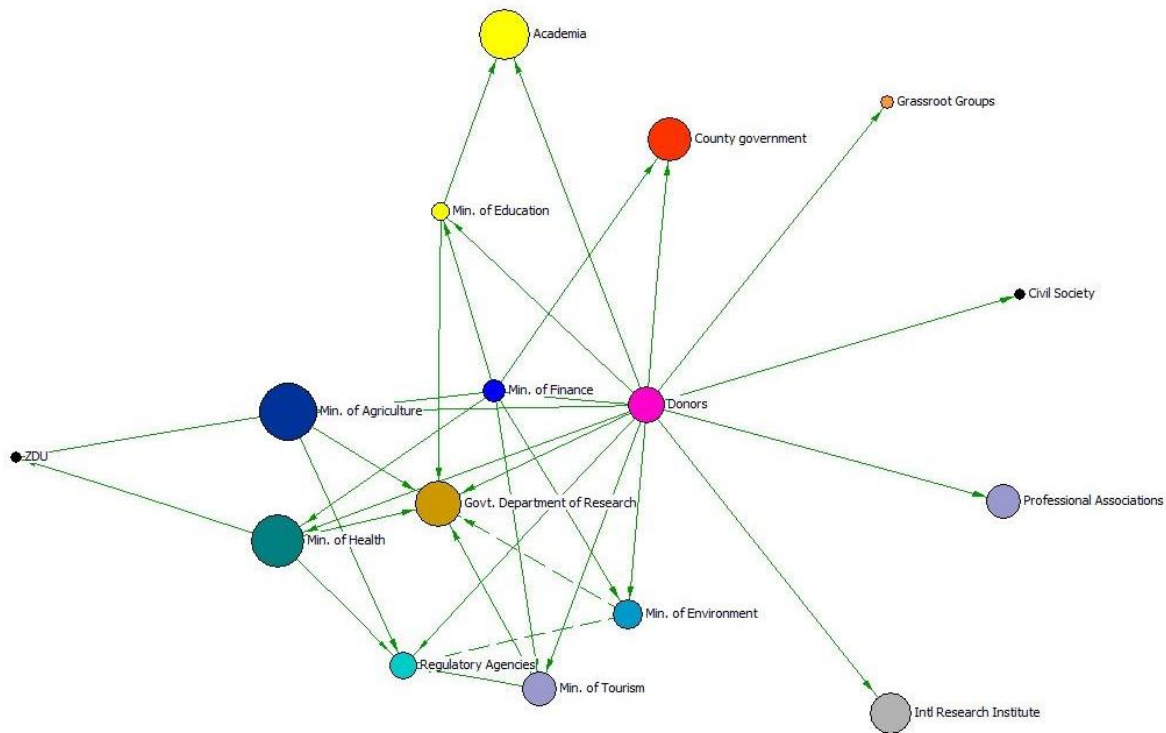
Legend:

- Funding
- Capacity Building
- Advocacy
- Collaboration

Note: The size of the nodes represents the number of influence towers assigned based on the number of linkages with other stakeholders (the bigger the node, the more influential the actor is).

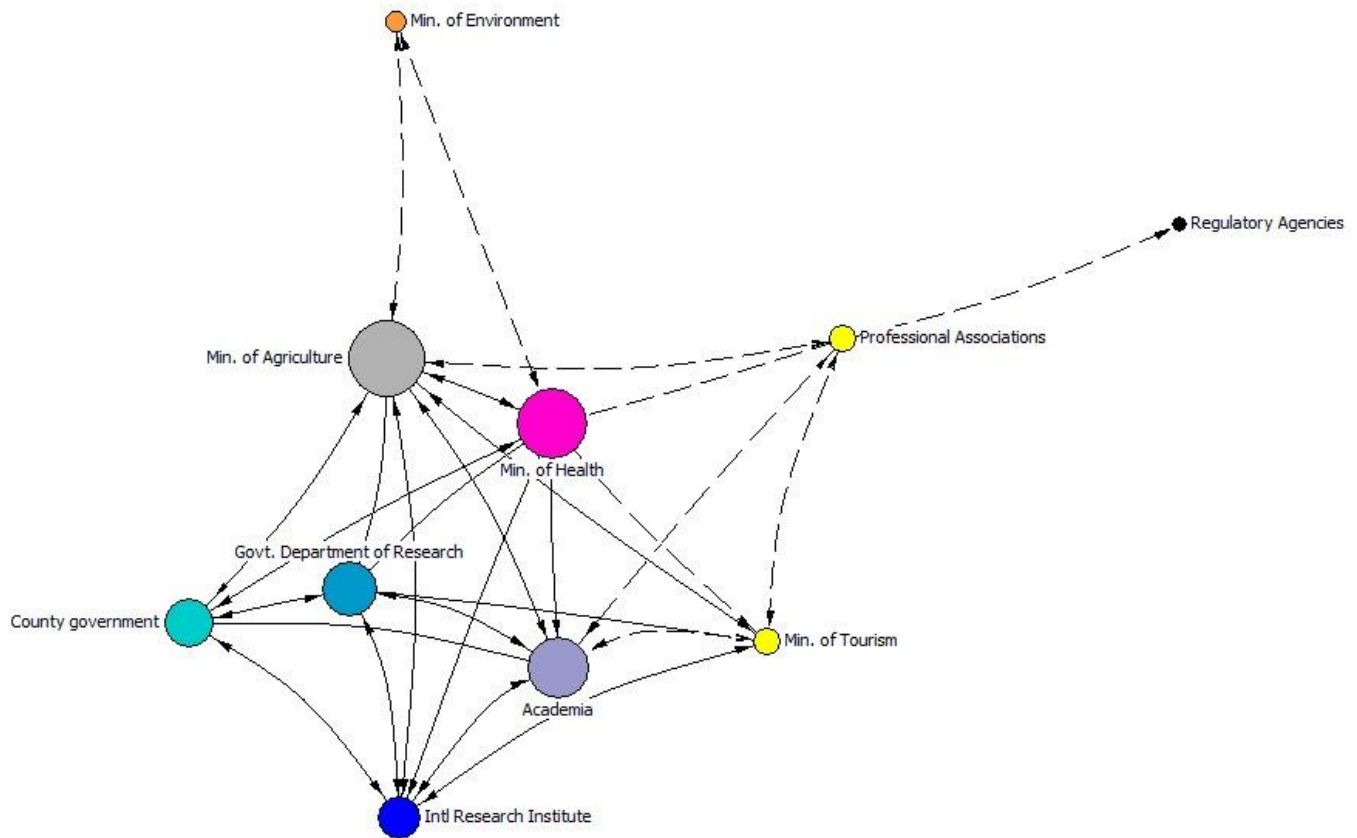
The Ministry of agriculture, the Ministry of Health and academia were identified as the most influential with 36 (16 in;20 out), 35 (15 in;20 out) and 33 (16 in;17 out) linkages respectively. The predominant linkages among these players were advocacy and collaboration.

a. Funding



Our findings indicate that donors are the main funders of the OH agenda with 14 linkages out. Government departments of research are the main recipients of funds for OH in Kenya with 6 linkages going in. All identified actors have a linkage of funding which shows that there are revolving funds for OH either as isolated OH issues or for overarching OH approaches. The Ministry of Finance is receiving donor funding for isolated OH issues. Treasury allocates funds to key-line ministries to perform their mandates and those funds are then channeled to address isolated OH issues based on the ministries' priorities. There is no direct budget-line for OH from Treasury.

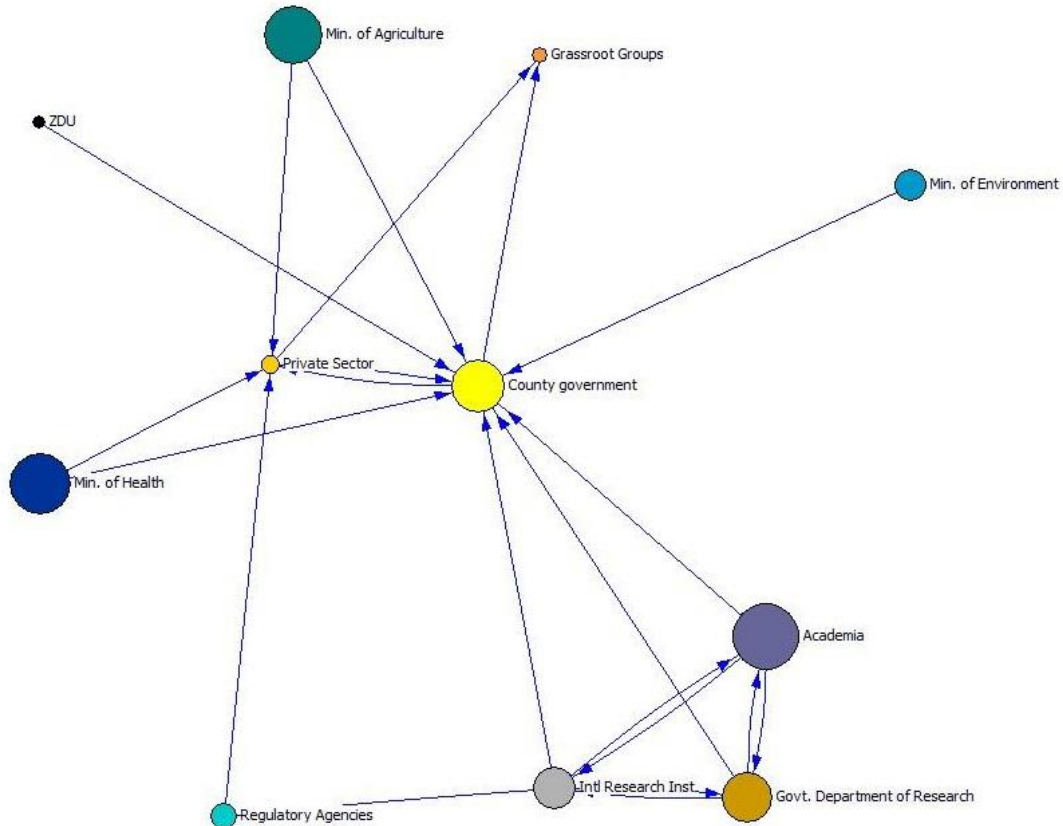
b. Collaboration



NOTE: Collaboration linkage was taken to be mutual thus arrows are bi-directional.

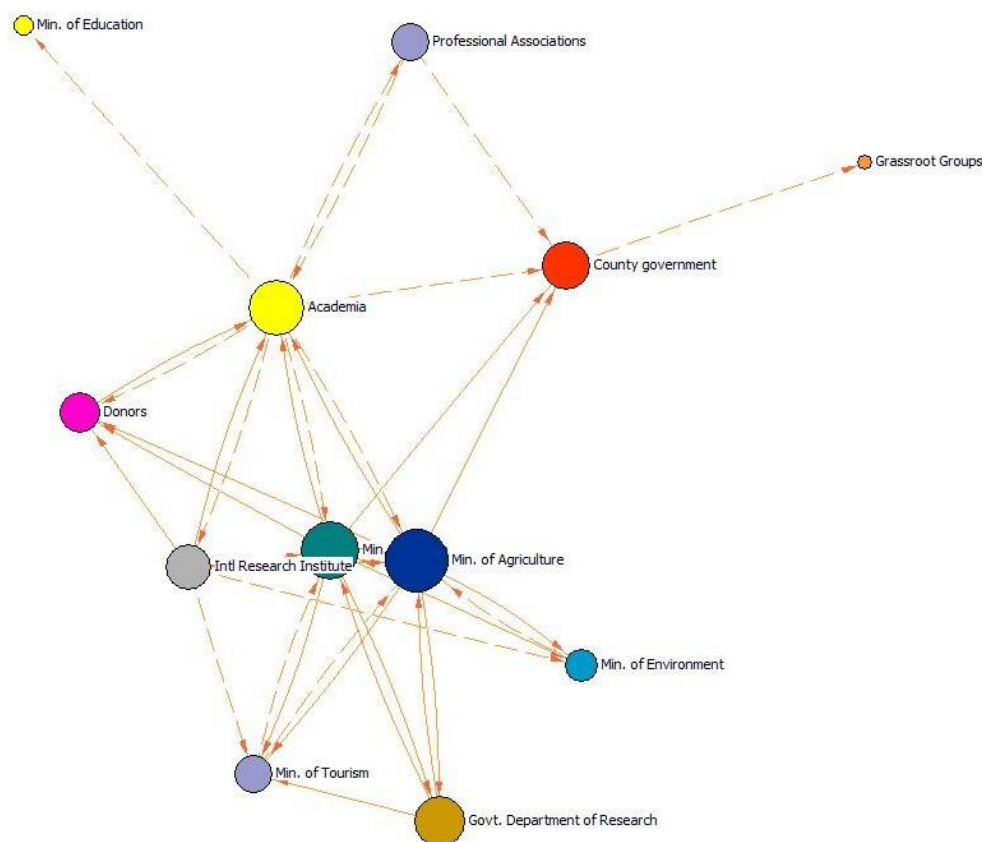
The Ministry of Health and Ministry of Agriculture Livestock Fisheries and Cooperatives were shown to have the most collaboration on OH with 8 linkages. They each had weak collaborations with professional associations and the Ministry of Environment. Ministry of Health had an extra weak collaboration with the Ministry of Tourism and Wildlife. All collaborations with professional associations, the Ministry of Environment, and regulatory agencies were weak and presented by a dotted line. Collaboration on OH is only present among the key line ministries, academia, and the county government. Key non-technical players such as the Ministry of Education, the private sector, and grassroots groups had no linkage on collaboration, hence not represented in this specific map.

c. Capacity building



Our net map findings show that capacity building is largely targeted to the counties with 8 linkages in and private sector (4 linkages in), who are in touch with the grassroots groups and communities that benefit from OH. This is promising in the uptake of the OH agenda. Missing key players include the Ministry of Education and the Ministry of Tourism and Wildlife.

d. Advocacy



Our net map results show that advocacy for OH exists within the institutions that have an OH mandate. Ministry of Health and Ministry of Agriculture Livestock Fisheries and Cooperatives are the major advocates for OH with 6 solid linkages out for each, but they are directing their advocacy to the technical actors and donors. Academia has 7 weak linkages out. Limited advocacy is also extended to the county government. Advocacy for OH to grassroots groups is weak and represented by a broken line. Key areas such as civil society, the Ministry of Finance and the private sector that could drive a sustainable OH approach have no advocacy linkage. Additionally, this linkage had the most broken lines, indicating that more efforts need to be put in place towards establishing structured and strategic advocacy.

Discussions

Collaboration to implement OH is extensive between key-line ministries and within the technical actors in the Kenyan OH scene. However, collaborations with the Ministry of Environment, regulatory agencies and professional associations to tackle specific OH issues happen unconsciously. The only structured collaboration exists between the Ministry of Health and the Ministry of Agriculture Livestock Fisheries and Co-operatives. The private sector, grassroots groups, and the Ministry of Education have no known OH-related collaborations yet they are key drivers in integrating and implementing OH-related policies.

Capacity-building on OH revolves between academia, government departments of research, and international research institutions with the most capacity extending to grassroots groups and the private sector via county governments. The counties' capacity on several OH-related issues is strengthened through key-line ministries including the ZDU, national and international research institutes, and academia. The capacity building initiatives are largely on sectoral OH issues and are centered around technical/professional groups within the OH network. Additionally, they often don't focus on the broader OH concept. Professional associations and the Ministry of Tourism and Wildlife lacked any capacity-building linkages for OH, yet these actors would play an important role in the integration, and effective implementation of OH-related policies.

Funds traverse across the key actors listed but these are for sectoral OH issues and are mainly donor driven. Funding from the Ministry of Finance through a direct budget line for OH would ensure sustainability, however, there is no engagement with the treasury to lobby for this direct budget line. It was discovered that when Ministries don't exhaust their budget allocations, the balance is usually returned back to the treasury which means that there is a window to lobby for a direct budget line for OH. There are untapped funds from

the National Research Fund (NRF) under the Ministry of Education which funds research and innovation. This is an opportunity for various actors to apply for funding for OH-related activities. While donor funding is important for OH, it limits the integration of OH activities since funds are channeled through specific sectors, for a specific duration, and for specific OH issues that may not have a broader OH approach.

Advocacy for OH appeared to be absent/limited in general, given most of the connecting links were broken. Some level of advocacy exists among the key-line ministries and technical groups within the network with a direct health mandate. Actors such as civil societies who are strong on advocacy have limited information about OH and its relevance in their agenda. Other actors that are essential for advocating for OH policy integration and implementation would first need education on OH and what it entails before they become champions. Demand for integration and effective implementation of OH-related policies could emanate from grassroots groups and the private sector, creating a bottom-up push and a sense of urgency to prioritize the OH approach. Therefore, more efforts to increase awareness of the benefits of One Health are needed, especially through working closely with the media and strategically utilizing social media and relevant international days.

Effective coordination of OH activities under an over-arching body such as the ZDU is missing since most activities are sectoral, and are happening in silos within specific disciplines and organizations with OH mandates. Coordination is key to the efficient and effective implementation of OH-related policies. A coordinating mechanism should ideally be placed in a higher-ranking authority/office both for accountability and enforcement of recommended OH strategies that cut across the environment, animal, plant, and human health sectors. Kenya has no stand-alone policy on OH but has several OH policies embedded as statements in the various acts. One Health issue cannot be effectively addressed in a single policy. ZDU bears responsibility for OH but only towards mandates that overlap with public health issues. Widening ZDU's mandate would ensure other OH issues are incorporated.

There is untapped power in the counties which could be harnessed to improve on integration and implementation of OH policies since they are closest to grassroots groups, and the private sector who are the consumers of OH practices. County interest is limited by information on OH. However, this doesn't cut across all counties because setup and problems for counties are different, meaning some align more with the OH approach. Professional associations are involved in generating policies that affect their line of work and have high power and influence in implementing OH-related policies. However, they fall short of integration of OH due to sectoral bias given they chose to focus on their field and mandate. They can be targeted to champion OH integration and implementation.

The net-map shows that the broader OH approach remains an abstract concept that is practiced in ivory towers amongst professionals with direct health mandates, or as a reaction to public health issues. Despite having high influence and interest in OH from the net-map, which contrasted with the stakeholder grid where academia was perceived to have no influence, academia has limited power (ability to act on OH issues i.e. authority over others) in the actual integration and implementation of OH-related policies. Practical and innovative ways of implementing OH, as well as increased advocacy from this group would translate their influence to power.

Generally, different key-line ministries and departments don't consider OH as their mandate apart from the two main ministries i.e. Health and Agriculture Livestock Fisheries and Co-operatives. Ministry of Environment and Ministry of Tourism and Wildlife are key to the successful implementation and integration of the OH approach but are currently not well captured in the principles of OH. Efforts to convince them that if the OH approach is effectively implemented, their sectoral mandates will also be adequately covered, should be applied. Sectoral OH activities need to be translated into inter-sectoral collaborations for the integration of OH solutions. Lastly, a competition that was defined as conflict over OH resources was not sufficiently discussed. An intra-actor analysis would elaborate further on the existing competition. Competition between counties and the key-line ministries due to overlapping mandates in devolved and centralized government functions

was also hinted. An analysis of government functions, policies, and mandates would further elaborate on this.

Study Limitations

Participants from some key-line ministries such as the Ministry of Environment were not represented in the discussions. Additionally, heavy representation by academia may have introduced some bias. These were addressed through the validation of the report by a wider audience.

Conclusion

There is a need to broaden the scope of the OH office (ZDU) beyond zoonoses, and incorporate other areas such as antimicrobial resistance, food and feed safety, vector-borne diseases, and environmental contamination, with increased multi-sectoral collaborations on activities to encompass ecosystem health. It was agreed that MOUs and frameworks incorporating the missing key-line ministries would better integrate these OH activities for accountability. Additionally, overarching coordination of OH activities would be better placed in a higher-ranking office where all these ministries comfortably fall under such as the Office of the President. Domiciling the national OH platform under a higher office would facilitate institutionalization and effective coordination of OH. The term 'institutionalization' was defined as a mechanism that would pave way for an integrated, practical, sustainable, and accountable platform, guided by an appropriate framework.

Intra-actor net-mapping is necessary to unlock internal barriers limiting inter-sectoral collaborations. In addition, a systematic review of legal frameworks and policies that are related to OH is necessary for the identification of potential overlaps. All related OH policies should be coordinated under an institutionalized OH office for better integration and effective implementation of the OH approach. County governments, media, and civil society should be educated on OH. Media and civil societies should be trained and leveraged as tools to advocate for OH integration in order to improve OH implementation

outcomes. For the sustainability of OH integration and implementation, advocacy has to be done for funding to be drawn from the Ministry of Finance through a direct budget line to the coordinating OH office. For this office to receive direct funding, institutionalization is key.

Acknowledgment

We would like to acknowledge all technical experts for their contribution to the net mapping workshop and for editing the synthesized report as follows:

Name	Institution
Dr. Francis Gakuya	Wildlife Research Training Institute
Dr. Mathew Mutiiria	Zoonotic Disease Unit
Dr Harrison Lutta	Kenya Agricultural Livestock Research Organization
Peris Njibu	Council of governors
Dr Mercy Akinyi	International Primate Research
Dr James Kuria	Kenya Medical Research Institute
Prof. Omu Anzala	The University of Nairobi
Prof Rosemary Sang	International Center for Insect Physiology and Ecology
Prof Grace Njoroge	Commission for University Education
Mukami Kibaara	Council of governors
Dr Catherine Kunyanga	The University of Nairobi

We would also like to appreciate the team members of the COHESA consortium for their contributions to this report.

Special thanks go to the local multiplier-The University of Nairobi led by Prof. Salome Bukachi for their contribution in ensuring the success of the net mapping workshop.

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Funded by the
European Union

This project is supported by the European Commission OACPS Research and Innovation Programme: ACP-EU initiative, co-founded through ILRI and CIRAD