

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

A joint event organized by the COHESA consortium

Validated Workshop Report



Photo credit: Margaret Karembu, ISAAA AfriCenter

3rd – 5th August 2022

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.

The [Institute of National Health \(INS\)](#) shapes the One Health structure in Mozambique. Several events preceded the formation of INS including the Joint External Assessment of Mozambique done in 2016, which led to recommendations for establishment of a One Health plan, strategy or policy. A visit to model countries with One Health Operational Platform in 2017, such as Kenya's [Zoonotic Disease Unit](#) led to prioritization of Zoonotic

Diseases and Antimicrobial Resistance with development of technical working groups from various disciplines with trained in OH approach to tackling these priority areas. The INS is currently made up of representative permanent staff of disciplines from the Ministry of Health (MISAU), Ministry of Sea, Inland Waters and Fisheries (MIMAP), Ministry of Agriculture and Food Security (MASA) and Ministry of Land, Environment and Rural Development (MITADER). This report highlights outcomes from a net-mapping conducted in Mozambique, 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 Mozambique, 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 [3]. 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 Mozambique. According to Palinkas *et al.* (2015) [4], 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 3rd, 4th and 5th August 2022 at the Southern Sun Hotel, Maputo. 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 Eduardo Mondlane University and the INS. To enable effective discussions and engagements, a total of 42 (18 female and 24 males) participants attended the net mapping workshop in Maputo. 8 participants came from academia, 7 from INS, 2 from Community based organizations, 5 from Development partners, 8 from National Research Institutes, 5 from the Ministry of Health (MISAU), 2 from the Ministry of Fisheries (MIMAIP), 3 from the Ministry of Agriculture (MASA), and 2 from regulatory agencies. They comprised of animal health experts, food safety experts, environment and human health experts.

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 Mozambique OH as development of an operational OH council. The guiding question for the net-mapping exercise was agreed upon as **“Who will influence the Institutionalization of a National One Health platform in Mozambique?”**

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 Mozambique

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)

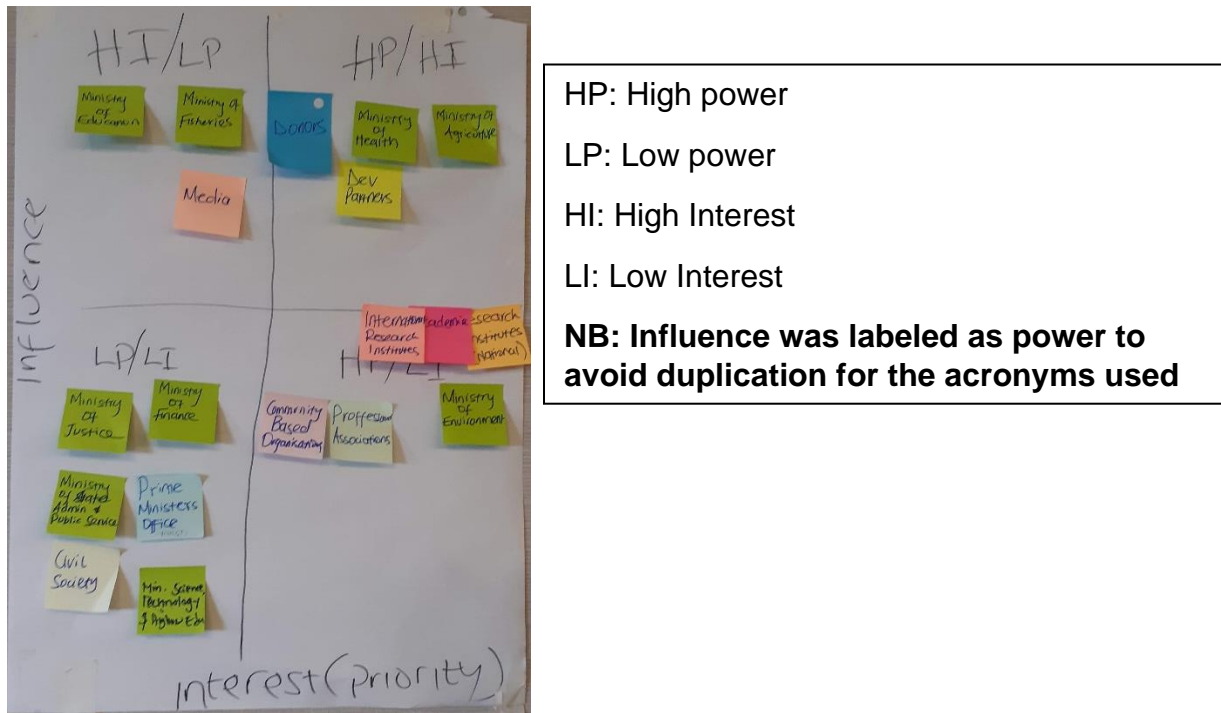
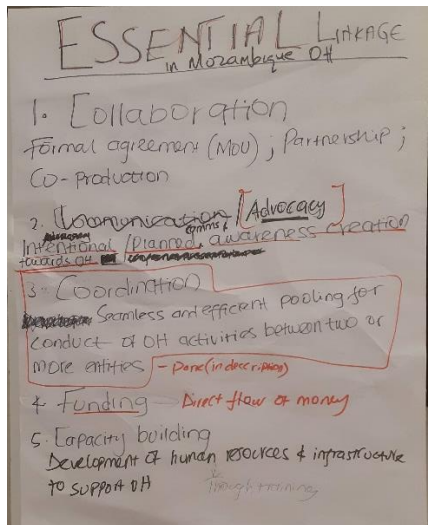


Figure 1 Stakeholder grid showing interest and influence in OH

iii. Defining relationships between stakeholders

Types of interactions or links that exist 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 collaboration, advocacy, funding and capacity building 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 information 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, while weak linkages were represented by broken arrow-lines 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 [5]. The colored lines represent essential linkages that were identified as fundamental to achieving the desired goal.

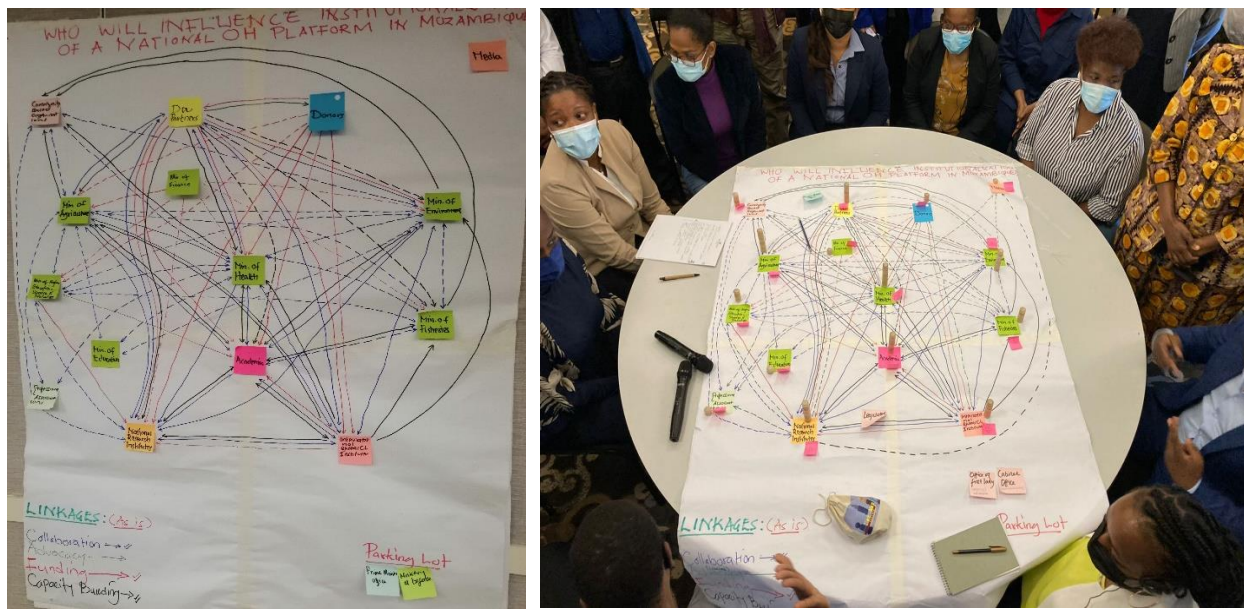


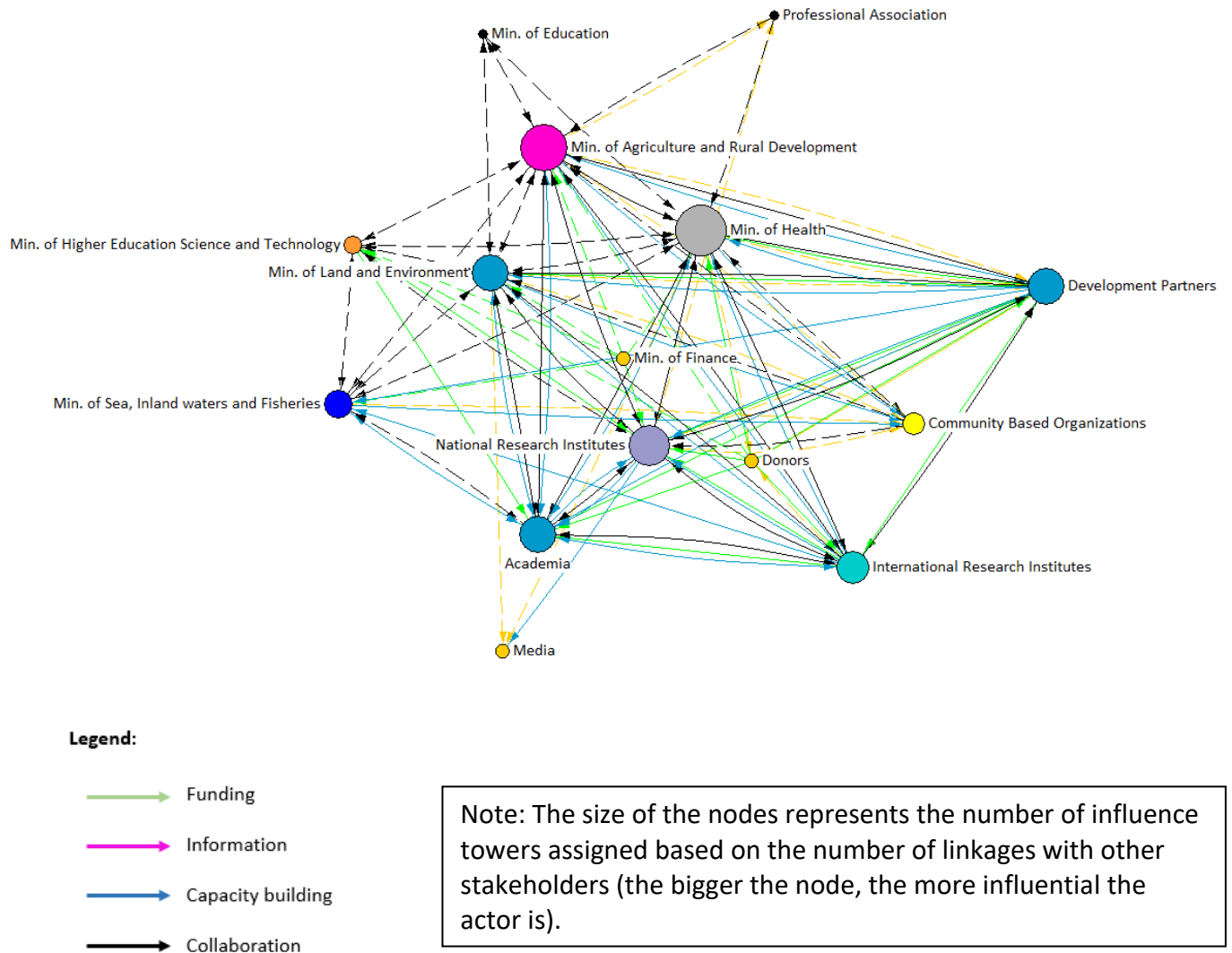
Figure 3 Connection between key OH actors in Mozambique and their influence towers on the right

Net Mapping Results

i. Key stakeholders and their linkages

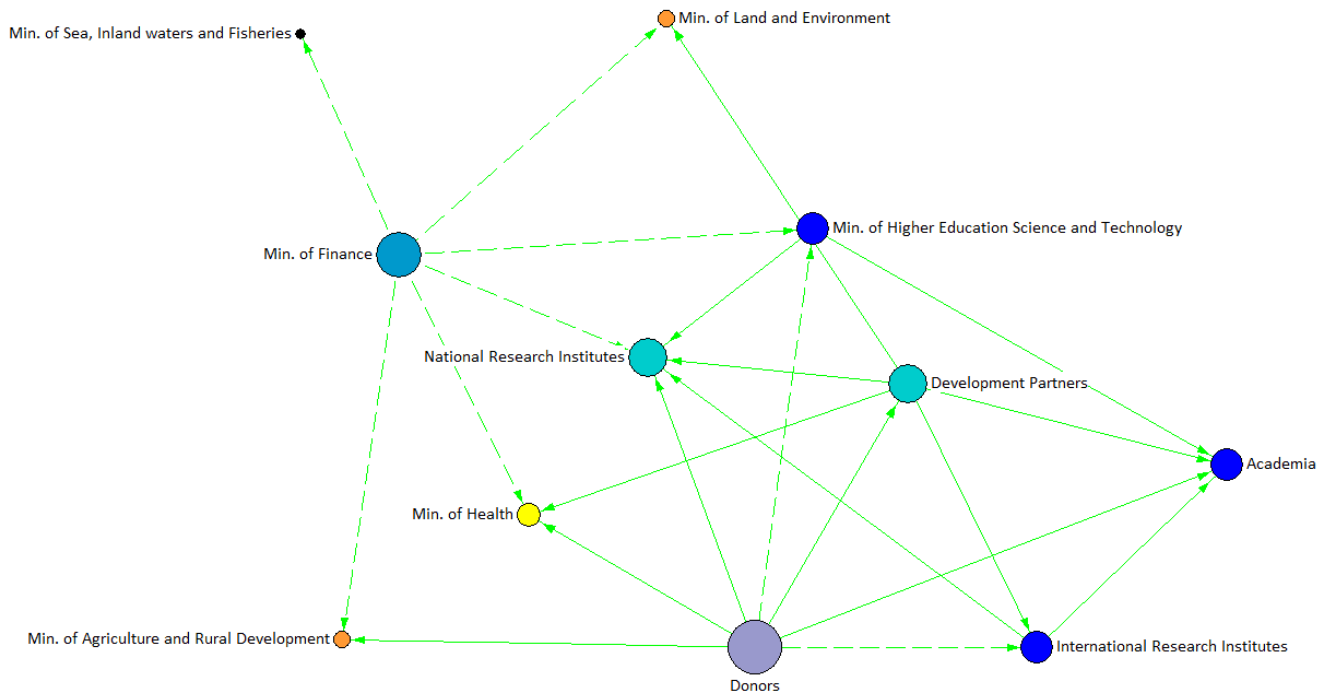
Actors	Links
1. Professional Organizations	1. Collaboration (Structured and formal partnership with co-production or a MOU)
2. Community Based Organizations	2. Funding (Direct injection of funds)
3. Donors	3. Regulation (Trade and business)
4. Government ministries	4. Information (Mis/Dis-information)
5. Academia	5. Capacity building (Development of skills and infrastructure)
6. Donors	6. Advocacy (Pro-actively creating buy-in, awareness and sensitization)
7. Implementation partners	7. Coordination (Seamless and effective pooling of resources for OH activities)
8. National Research Institutes	
9. International Research Institutes	
10. Civil societies	
11. Media	
12. Office of the Prime Minister	

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



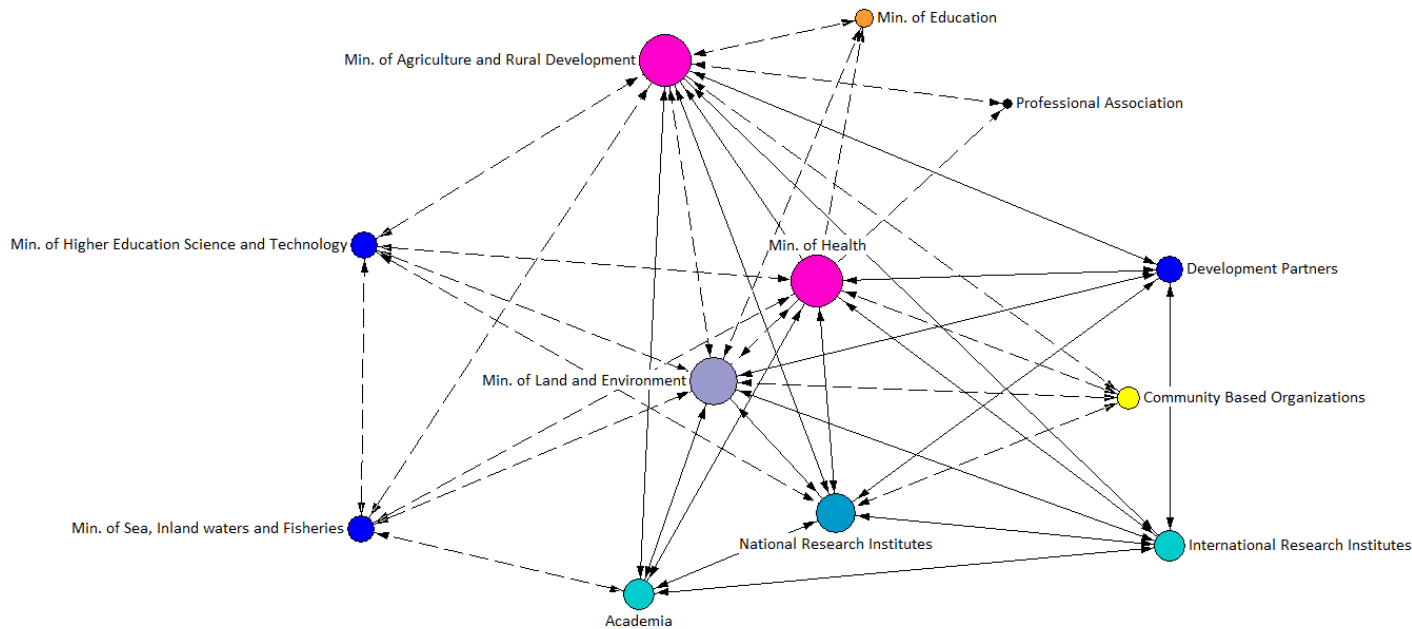
The Ministry of Health and the Ministry of agriculture and rural development were identified as the most influential with 34 (16 in;18 out), 31 (15 in;16 out) linkages respectively. The predominant linkages among these players were collaboration and capacity building.

a. Funding



Our findings indicate that donors are the main funders of the OH agenda with 7 linkages out. National Research Institutes and academia are the main recipients of funds for OH in Mozambique with 5 and 6 linkages going in respectively. The Ministry of Finance has 6 linkages out to various ministries but this funding was shown to be for isolated OH issues and represented by broken lines.

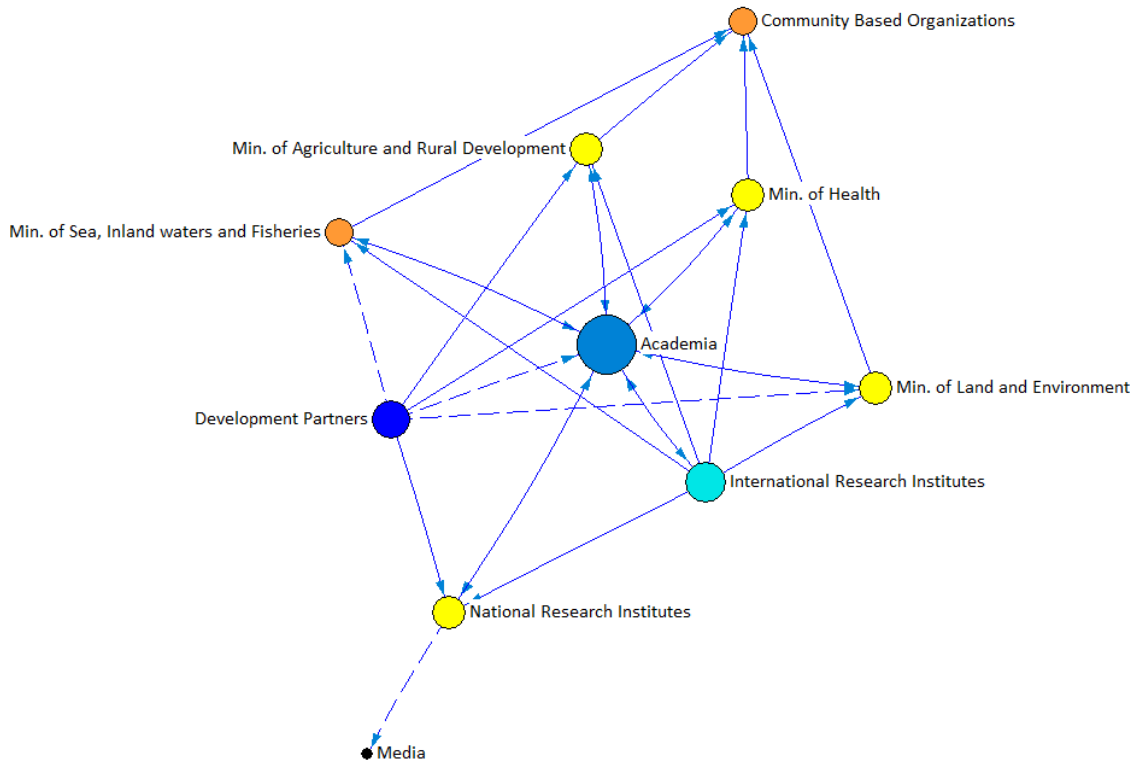
b. Collaboration



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

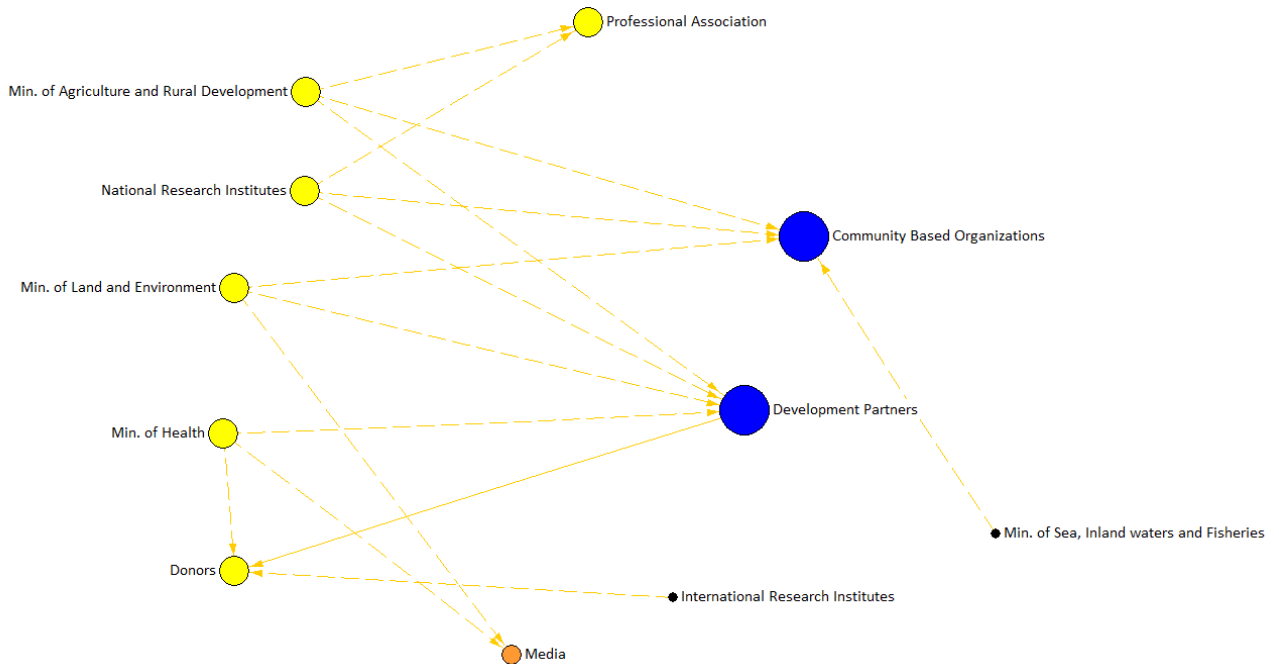
The Ministry of Agriculture and Rural Development, and the Ministry of Health were shown to have the most collaboration on OH with 11 linkages each. All collaborations on OH with the Ministry of Fisheries, Ministry of Higher Education, Ministry of Education, professional association and Community based organizations were on sectoral issues thus represented by broken lines. Development partners are instrumental in bringing the key ministries and other technical stakeholders together on collaborative OH issues in Mozambique.

c. Capacity building



Our net map findings show that academia has the most linkages for 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 most advocacy for OH exists from the key line ministries that have an OH mandate to other stakeholders. Development partners have the most linkages for advocacy of OH with 5 (4 in and 1 out) linkages. Community Based Organizations follow closely with 4 linkages in. Generally, advocacy for OH is weak within the Mozambique stakeholders as shown by the extensive broken lines representing the linkages. A key finding is the advocacy for OH to the media from the Ministry of Land and Environment, and the Ministry of Health.

Discussions

One Health efforts exist with collaboration among four ministries, Ministry of Health (MISAU), Ministry of Agriculture, and Food Security (MASA), Ministry of Land, Environment and Rural Development (MITADER), and the Ministry of Sea, Inland water and Fisheries (MIMAIP) which is overseen by the Institute of National Health. The efforts are informal, issue-based with limited financial and functional capabilities beyond the mandate of the Ministry of Health, hence the need to identify actors who will make it broad, and sustainable as a National One Health entity. INS is currently working on a National One Health Strategy for Mozambique to address some of the limitations faced in One Health practice. This National One Health strategy was developed by a multisectoral team and includes an organogram for governance of OH with decentralized province-level stewardship under a central National point.

Institutionalization of a National OH platform in Mozambique will encourage the involvement of all sectors that are left behind, but must follow some informal and formal key steps. While the National OH strategy can still be implemented without a Institutionalizing a National Platform, having an institutionalized platform validates and strengthens the OH strategy especially for budgetary allocation and policy. Collaboration with the consumers of OH solutions in the community is also important for successful OH implementation. It is important that the OH solutions generated are relevant to the consumers on the ground, especially due to the varied nature of challenges faced by different provinces in Mozambique. It was noted that formalizing collaboration between the technical sector and communities is necessary especially from research fields where data is collected and results shared back without follow-up to ensure the findings are adopted or create an impact.

Capacity building on OH is important towards ensuring a functional National One Health platform. As expected, academia is influential in capacity building within the Mozambican OH landscape especially in their exchange with key line Ministries who are staffed with graduates. These ministries also extend capacity on OH to Community based organizations. This capacity however was argued to be within the ministerial mandates.

Since OH in Mozambique originated from the Ministry of Health, they have been crucial in advocating for OH to other stakeholders. Lots of OH advocacy activities are conducted in the backstage and out of media and social networks. These advocacy efforts are unstructured (lack targets, outputs and Monitoring and Evaluation plans). Mainstream advocacy for OH towards non-technical groups in Mozambique is generally weak. Politicians are especially key targets since they control financial allocations and policy for OH. Capacity on OH to the media, which is an important tool is limited in Mozambique, and only extends from the National Research Institutes as a reactionary effort to sectoral OH issues.

OH activities require funding for logistical support and sustainability. In Mozambique, funds for OH are mainly seen within the technical groups extending to academia. This could mean that OH capacity is advancing gradually considering academia are influential in capacity building for OH. While the Ministry of Finance assures sustainable financial support for OH in Mozambique, it has been shown to be focused on mandated and sectoral activities. Stakeholders within the technical OH circle need to lobby for alternative funding sources and sustainable budgets for OH initiatives in Mozambique.

Study Limitations

Some concepts might have been lost in translation from Portuguese to English. However, these findings will be submitted to a wider audience for validation.

Conclusion

As it is, One Health is domiciled under the Institute of National Health which is subservient to the Ministry of Health. The Institutionalization of a National One Health platform would broaden the OH agenda in Mozambique by incorporating other entities such as plant health and environment component who have limited engagement. Anchoring the OH platform in the Office of the Prime Minister would add more authority to it. However, for this to happen, there is need for more advocacy, sensitization and capacity building for OH beyond the technical circles. While the organogram of multidisciplinary technical working groups should be retained, they need more members from other important

ministries such as the Ministry of Justice and the Ministry of Finance who even though not directly involved in OH, are still key to the Institutionalization of a National OH platform especially in policy and budgetary allocations. It is necessary to create strategies to engage actors that have high influence, but limited priority for OH. The media was suggested as key for awareness and advocacy especially at the provincial and district level where grassroots group and communities operate since they are the main consumers of OH solutions, and their involvement 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
Inocencio Chongo	INS
Lucinda de Araujo	Eduardo Mondlane University
Tomas Zimba	MTAPS
Fernando Rodriguez	MADER
Misa Isabel Alvaro	MADER
Aline Getambire	GHSC
Vasco Sambo	CISM
Ana Fernandes	ONS
Cidia Monteinu	PIRCOM
Oswaldo Inlamea	INS
Ilda Chilengue	DNDP
Benigna Gaspar	FAVET
Gizela Rabanete	INS
Saquibibi Valgy Ibraimo	MIMAIP
Jorge Charles	DNAM-DTH
Augusto Messa	CISM
Celina Malichocho	MIMAIP

Diane C	DCA
Suzana Da Cruz	LNHAA
Velasco Mahanjane	INGD
Erica Rosseto	CDC
Lorna Gurjal	Village Reach
Cesar Palha De Souza	UEM
Vlademir Magaia	CB-UEM
Jose Jao Sumbana	CB-UEM
Sadia Ali Perreira	INS
Oraca Cuambe	ANAC
Agostinho Teofilo	INS
Zuleca Cassamo	FAO
Arsenio Muchongo	FACMED
Ana Malaica Mbeve	MISAU
Aquino Nhantumbo	INS
Fozo Alombah	MTAPS
Carlos Vilankulos	PIRCOM
Jose Fafetine	CB-UEM
Victor Sitor	MISAU
Jessina Masamha	CDC
Anesio Macicame	INS
Essediva Fud	UEM-DCB
Victor Francences	MISAU
Francesco	MISAU
Palha de Sousa	USAID

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 Mozambique led by Dr. Lucinda de Araujo for their contribution in ensuring the success of the net mapping workshop.

References

1. UNEP. (n.d.). *Joint tripartite and UNEP statement on definition of "one health"*. UNEP. Retrieved September 1, 2022, from <https://www.unep.org/news-and-stories/statements/joint-tripartite-and-unep-statement-definition-one-health#:~:text=One%20Health%20is%20an%20integrated,closely%20linked%20and%20inter%2Ddependent>
2. Knight-Jones. (2022, March 13). *COHESA: Capacitating One Health in Eastern and Southern Africa*. International Livestock Research Institute. Retrieved September 1, 2022, from <https://www.ilri.org/publications/cohesa-capacitating-one-health-eastern-and-southern-africa>
3. Eva Schiffer. (2007). *Net-map tool box: Influencing Mapping of Social Networks*. International Food Policy Research Institute
4. Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544.
5. Medical Decision Logic, Inc (2014). *VisuaLyzer 2.2*. A tool for network research

COHESA

Capacitating One Health in Eastern and Southern Africa



UNIVERSIDADE
E D U A R D O
M O N D L A N E



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