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Namibia OH Landscape: Challenges, Opportunities and Collaborative Strategies

A One Health (OH) assessment was conducted on all relevant private and public health stakeholders to understand Namibia's current OH practices and challenges. There is no OH institute, but the Ministry of Health and Social Services (MoHSS) is establishing a Namibia Public Health Institute (NAMPHI), which may be responsible for OH coordination.

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COHESA
Capacitating One Health in Eastern and Southern Africa

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Abstract

The Capacitating One Health in Eastern and Southern Africa (COHESA) initiative fosters research and innovation that facilitates seamless integration, customization, and operationalization of One Health (OH)-focused solutions. It is spearheaded by three consortia, namely, the International Livestock Research Institute (ILRI), Centre de coopération Internationale en recherche agronomique pour le développement (CIRAD), and the International Service for the Acquisition of Agri-biotech Applications (ISAAA). COHESA has 12 multipliers, including Namibia. Although Namibia does not currently have a formal OH Institute, key stakeholders recognize the importance of this concept. A baseline key informant survey conducted by Namibia's project team revealed that participants acknowledged the significance of OH, particularly considering emerging and re-emerging diseases that affect humans, animals, plants, environmental health, and ecosystems. The cabinet's recent approval of the Namibia Public Health Institute (NamPHI) is expected to enhance Namibia's responses to public health threats. The National Action Plan on Health Security (NAPHS) of 2020 has facilitated a collaborative agreement between crucial line ministries (Ministry of Health and Social Services (MoHSS), the Ministry of Environment, Forestry and Tourism (MEFT), and the Ministry of Agriculture, Water and Land Reform (MAWLR)). However, the OH concept remains fragmented in private and government sectors. While the government emphasizes regulatory compliance, broad collaborations across sectors, and disease-centric initiatives, the private sector focuses more on industry-specific regulations, projects, and evaluations. Efforts should be made to bridge these gaps and foster more collaborative and coordinated approaches to address health challenges across Namibia's multisectoral landscape.

What is the Incremental Value that Makes this a One Health Case?

Namibia envisions a formalized Namibian OH structure in the long term, but currently, OH issues are being addressed in a fragmented manner. However, the OH desktop review and findings from the baseline survey reveal that different entities in Namibia are independently working on OH solutions. The NAPHS advocates for multi-sectoral engagement to develop health solutions for humans, animals, plants, the environment, and ecosystems, and significant progress has been made in this direction. The line ministries have recognized the valuable role of the Namibian COHESA project team from the University of Namibia (UNAM) in capacitating OH in Namibia. The project team has brought together multiple OH stakeholders, and MoHSS has acknowledged their coordination efforts. The Net Mapping exercise provided the opportunity to identify and map the existing relationships between OH stakeholders in Namibia, demonstrating their

unified front. The MoHSS collaborated with the Namibian team to develop a National OH framework for the country. This collaborative approach underscores the stakeholders' appreciation of COHESA's efforts. Furthermore, UNAM is fully committed to OH concepts. UNAM conceptualized an OH Centre of Excellence at its Katima Mulilo campus. UNAM has also transformed its undergraduate and postgraduate programs to reflect OH principles and is working on developing short courses in OH, among other initiatives. These promising developments inspire the Namibia project team to challenge stakeholders to envision and establish a Namibian OH Institute, emphasizing the importance of their contributions.

One Health approach in Namibia combines diverse perspectives and resources to address health issues more effectively than isolated efforts. Integrating human and veterinary medicine with social and environmental sciences leads to more effective interventions and better health outcomes for humans and animals. This promotes sustainability through efficient resource use and environmental conservation, which is crucial for ecosystem health. Cooperation across sectors reduces duplication, optimizes resource allocation, and leverages shared expertise, leading to financial savings. Collaboration also builds social resilience by strengthening networks and improving crisis response capacity. Therefore, an integrated approach is better because it improves infectious disease control. For instance, successes in rabies control in Namibia are credited to the One Health approach (Global Health Protection Program OH project in Namibia). Antimicrobial resistance is better addressed through concerted efforts because drug use, management, and stewardship are cross-cutting among many human, environmental, and animal sectors.

Learning Outcomes

1. Analyse and identify the overarching themes in the data of the Namibian Baseline survey about OH concepts.
2. Understand the strategies to actively support the MoHSS in establishing the Namibia Institute of Public Health (NAMPHI).
3. Describe the University of Namibia's ambition to establish an OH Centre of Excellence that aims to enhance the visibility of OH in Namibia.
4. Develop relevant curricula to increase OH knowledge in the country.
5. Identify the key stakeholders and actors in OH in Namibia and assess their efforts towards establishing an OH Institute

Background and Context

Namibia is a country located on the south-western coast of Africa. The country's borders are Angola and Zambia to the north, Botswana, Zimbabwe and South Africa to the east, South Africa to the south, and the Atlantic Ocean to the west (Green, 2023). The country has a population of 2.6 million people (Worldometer, 2023). The country is divided into two parts: north of the veterinary cordon fence (VCF) and south of the VCF (OECD and FAO, 2021).

Namibia records a high incidence of TB, with a prevalence rate of 489 per 100,000 people. The World Health Organization (WHO) considers TB prevalence rates of 250 per 100,000 population to be epidemic, and unfortunately, Namibia's rates are significantly higher than this threshold. Additionally, the country also has a high prevalence rate of HIV, which stands at 374 per 100,000 people. Malaria is also a significant health concern in the country (Aiken, 2018). The main animal health challenges in the last 5 years have been lumpy skin disease, Newcastle disease, malignant catarrhal fever, African swine fever, African horse sickness, and rabies. Foot and mouth disease and contagious bovine pleuropneumonia are important diseases where routine vaccinations against these diseases are done north of the VCF (Staff Reporter, 2018). The last confirmed foot and mouth disease and Contagious Bovine Pleuropneumonia outbreaks were in 2021 and 2022, respectively (Dhlamini, 2022; FAO, 2023). On the environmental front, the significant challenges are attributable to climate change. Other notable findings are biodiversity loss, land degradation, deforestation, pollution, and water scarcity (Richardson, 1998; Klintenberg and Seely, 2004).

Namibia is a signatory to the International Health Regulations (IHR) 2005, which mandates member states to strengthen capacities for health security (WHO, 2021). The pandemics like Ebola (2014) and COVID-19 (2019) showed the need for coordinated efforts across all sectors to prevent or fight disease outbreaks. The Joint External Evaluation (JEE) is a voluntary, collaborative, multisectoral process to assess a country's capacities to prevent, detect, and respond to public health risks. The JEE by the MoHSS and WHO to

assess Namibia's public health capacity under the International Health Regulations (IHR) of 2016 revealed critical gaps that needed to be addressed to protect people in Namibia from pandemics (WHO, 2021).

In response, Namibia developed a National Plan for Health Security (NAPHS) to create roadmaps for strengthening health security in the country (WHO, 2023). The NAPHS in Namibia is a comprehensive plan emphasizing preparedness, surveillance, and a One Health approach to enhance health security and protect the population from public health threats. Since epidemics occur at the Animal Health Environment (AHE) interface, the NAPHS will be implemented under the OH framework with technical oversight from the MoHSS, MAWLR, and MEFT. The line ministries led by MoHSS have attempted to coordinate OH activities in the country and have achieved some significant successes, including the setting up of a Namibia Public Health Institute (NAMPHI), done with the idea of strengthening health security in the country (Thieleke-Matos *et al*., 2022).

COHESA is a project that aims to capacitate OH in Namibia in strengthening and fostering the relevance of OH research and policies in Eastern and Southern Africa (ESA), enhancing cross-sectoral collaboration between government entities and stakeholders, equipping educational and research institutes to train future OH professionals, and boosting the capacity of stakeholders to identify and address OH challenges effectively (Knight-Jones, 2021).

The OH assessment conducted by the UNAM COHESA team had several project activities, such as the following:

1. Desktop Review, which involved sourcing information available online and in book publications based on their accessibility of OH in Namibia, with guidance from the desktop review template, as advised by the consortium.
2. Baseline Key Informant Interviews (KII) with essential stakeholders specializing in human, animal, plant, and environmental health to get their perspective and organizational understanding of OH in Namibia. The consortium generated and administered the questionnaire in all countries where COHESA is actively involved.
3. A 1-day data analysis, in which the supervisors and collaborators from the UNAM team analysed the information collected from the Desktop Review and Baseline Key Informant Interviews to collate and synthesize the data (Fig. 1).
4. The Focus Group Discussions (FGDs) engaged various experts and stakeholders from human, animal, plant, and environmental health sectors. They were divided into three groups, each with representation from all sectors. Moderators and facilitators from the COHESA UNAM team guided the discussions in each group based on a consortium-generated questionnaire. This aimed to delve into interconnected issues, foster knowledge exchange, encourage varied perspectives, and generate solutions at the intersection of One Health.
5. The Validation Workshop served as a platform to verify the data collected from multiple stakeholders through the Key Informant Baseline Survey Interviews referred to as BKII earlier and Focus Group Discussion. Participants in these events or their representatives contributed to this validation process.
6. A Net Mapping Workshop, employing a tool created by the International Food Policy and Research Institute (IFPRI), engaged a panel of OH experts (Fig. 2). This aimed to comprehend, discuss, and visualize Namibia's OH-related data using a visualizer – an interactive desktop tool facilitating data analysis. This process identified the actors within Namibia's One Health network and illustrated their connections across themes like funding, advocacy, collaboration, and capacity building. These linkages also indicated the varying influence of each organization within these thematic areas (Fig. 3).
7. Media Science Café aimed to raise awareness, educate, and garner media coverage with participating Media Houses regarding One Health. This event focused on sharing information gathered from the various activities of the COHESA UNAM Project. Notable media outlets in attendance were One Africa TV, New Era, Nova, Have a Heart, and the Namibia Broadcasting Channel.
8. One Health Advocacy Strategy Workshop brought together COHESA UNAM team members, representatives from MoHSS, Africa CDC, and prominent academics in the OH field. Their collaboration focused on developing a proactive advocacy strategy titled the 'Framework of One Health Practices in Namibia Zoonotic Disease Prevention and Control 2024–2028.' This document aims to advance One Health practices in Namibia as a proactive measure for zoonotic disease prevention and control (Fig. 4).

Fig. 1. OH data analysis meeting.

Fig. 2. OH netmapping.

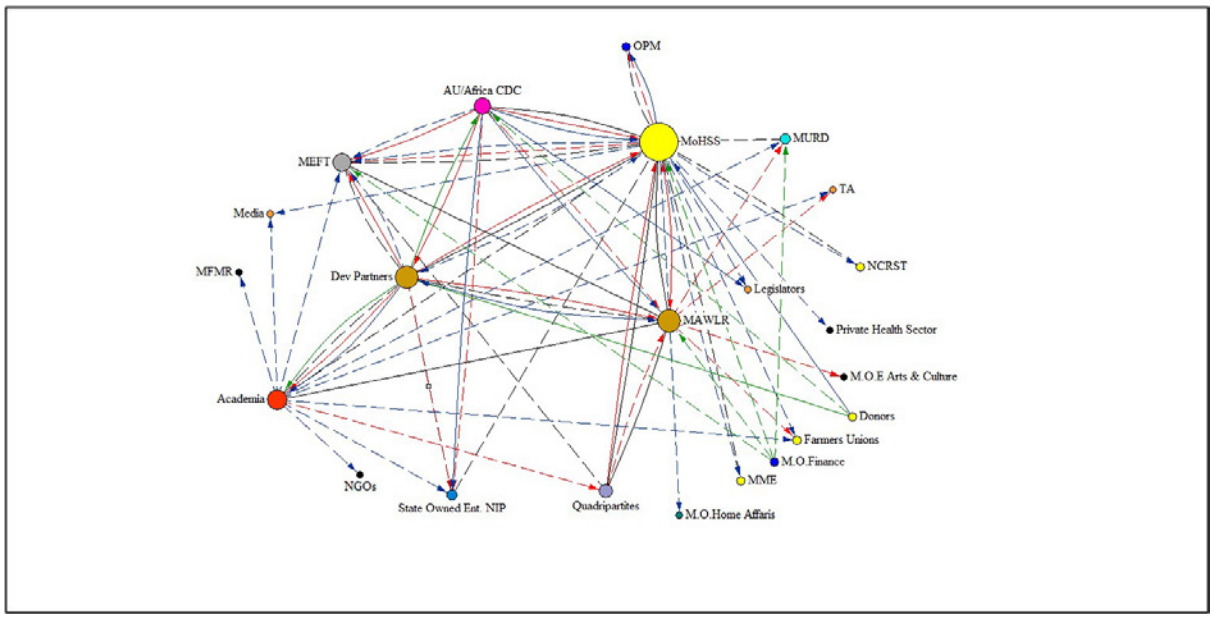

Fig. 3. General netmapping.

Fig. 4. OH advorcacy strategy workshop.

Transdisciplinary Process

Participants in the KIIs were selected from various esteemed institutions. Within academia, representatives from the University of Namibia were engaged, specifically from departments like Epidemiology, Ecology, Environment, Veterinary Public Health, Agriculture, Management of Natural Resources, and Environmental Science. Government sector participants hailed from eight ministries covering agriculture, water and land reform, environment, forestry, tourism, Agribank, regional governance (governor or councillor), farmers'

representation, fisheries and marine resources, health and social services, traditional offices, and the office of the prime minister. In the private sector, a participant from a copper smelter facility participated. Finally, a non-governmental organization (NGO) representative focused on sustainable development and conservation of biodiversity and ecosystems was also involved.

The Focus Group Discussion (FGD) had 23 participants from various sectors, including government, academia, research, commercial, and non-governmental organizations. Participants included representatives from health and social sciences (7), agriculture, water, and land reform (1), environment, forestry, and tourism (1), pathology (1), regional governance (2), medical laboratory services (1), Agribank (1), and farmers' representation (1). Academia was represented by 4 from UNAM and 1 from the Namibia University of Science and Technology. One NGO and two international organizations (a global health organization and a German-based animal health institute) also participated.

Of the FGD participants, 43% were male and 57% female. Analysis showed that 39% were from Government Ministries, 9% from International Organizations, 22% from Academic Institutions, and 30% from other Namibian Organizations.

Project Impact

The Namibia COHESA project aims to advance OH solutions nationwide and significantly impact the country. The baseline survey conducted in Namibia revealed that there were disjointed approaches to addressing health issues, and the piecemeal approach and silos in dealing with health issues had not created the intended impact. Therefore, adopting a holistic approach through the OH concept is essential to address the multifaceted health challenges in the country.

The project aims to capacitate One Health in Eastern and Southern Africa and will contribute to institutionalizing OH practices in Namibia. The key impact areas of the project are driving policy changes, conducting research, training trainers on the OH concept, improving collaboration, and increasing awareness of the concept in the country.

To achieve these goals, the project will foster cross-sectoral collaboration between line ministries (MAWLR, MEFT, MOHSS), WHO, WOAH, FAO, FLI, RKI, academia (UNAM, NUST), and other stakeholders to research AMR, zoonotic diseases such as rabies, food safety issues, and environmental contamination in the country.

The project will also play a crucial role in training the next generation of the OH workforce. It will develop relevant curricula at all levels to discuss the importance of OH in society. Higher education institutions will develop MSc and PhD programs and short courses on OH. The Ministry of Education, Arts and Culture will extend the OH training to a broader audience at government and private schools in the country.

Namibia is one of the 12 countries working as multipliers in the project, and there is significant cross-pollination of ideas as these countries share similar environments and challenges. Successful implementation of the project will address the United Nations Sustainable Development Goals 1, 2, 3 and 6, and equip government and nongovernmental stakeholders to identify and deliver OH solutions to critical problems that negatively impact people's livelihoods.

The project's capacitive role will also help to improve the Joint External Evaluation (JEE) evaluations, Performance of Veterinary Services (PVS), and similar ratings, resulting from aligned stakeholder efforts by the line ministries with the project's support. The knowledge transfer and capacity building highlighted above will create more opportunities for research and innovation, thus having a ripple effect on the already established impacts.

Research and Innovation

Out of the criteria in the BKII assessment tool concerning areas of expertise of the key informants, the least selected area of knowledge by the participants was Research Grants Management and Agriculture. Academics are doing research in their fields and not necessarily in OH. This was a gap to be filled. Unsurprisingly, the academic participants engaged in research, innovation, and evaluating research projects. By conducting translational research, providing top-notch training, and driving innovation, academia serves as an advisory body that engages with communities and addresses current societal issues. This helps achieve national and international development goals by educating people on human, animal, and environmental health.

Collaborative interactions among the participants were also driven by the need for research, especially among academia and the ministries. Notably, the MEFT interacts with universities to research wildlife diseases. In addition, the MOHSS and MAWLR also interact with academia and other organizations, such as the Friedrich-Loeffler-Institute (FLI) and Robert Koch Institute (RKI), in studying zoonotic diseases such as rabies. Rabies is 100% preventable through vaccination, but vaccination coverage is low due to the non-availability of all susceptible dogs. Stray dogs are a particular challenge. Figure 5 shows the implementation of oral rabies bait trials in Namibia's Northern Communal Areas (NCA). Stray dogs are difficult to reach, and oral baits offered a possible solution to low vaccination coverage. These collaborative research projects between academia, government, and the private sector improved understanding of OH issues like rabies management in Namibia; however, there were few reports of such shared research programs.

Fig. 5. Vaccination of dogs in a village centre in northern Namibia (© C. Freuling, FLI).

During the FGD, participants emphasized the importance of research in promoting OH. The academic community has expressed its commitment to conducting multidisciplinary research. The National Commission on Research was noted for addressing various research issues, including those that speak to OH. Regarding the key priorities for building OH capacity in Namibia, the participants identified collaboration, education, policy, and research as essential elements. Notably, research was highlighted as a critical component of OH (Priority Research, Collaboration and Policy), ranking third in importance after collaboration and education. Looking towards the future, the next 10 years of OH are envisioned to prioritize research, the delivery of curative care, and personal and group skills development. However, to achieve these goals, it is crucial to invest in training and innovation to build a skilled workforce in this field.

Governance

Currently, there is no formalized OH governance structure in the country. However, the MOHSS is working on establishing NAMPHI, which takes the OH approach in addressing various issues. Senior government officials (Deputy Minister of Health in Namibia) highly support the ministry's activities.

NAMPHI will be the caretaker for OH issues until the OH institute is established. During the FGD, there was a discussion regarding the optimal placement of OH governance. While MOHSS NAMPHI operates autonomously under the MOHSS umbrella, there were concerns surrounding potential challenges if a future OH institute was placed within MOHSS due to its equal footing with other essential ministries. Alternatively, some suggested locating the institute within the higher office of the Office of the Prime Minister (OPM) to establish more concrete authority. However, given NAMPHI's firm placement under MOHSS, the current governance structure appears sufficient. The results of net mapping put MOHSS as having the most significant influence and are thus poised to take charge.

Education

The educational backgrounds of the BKII respondents were diverse. Of the participants, 18% held a Doctor of Philosophy Degree, 35% held a Master of Science, and 12% held a Bachelor of Science. Additionally, 29% of the respondents had pursued some form of tertiary education. Interestingly, only one respondent

reported that their highest level of education was Secondary Education. Our purposive sample of OH experts mainly had tertiary education credentials.

One degree program (PhD by research OH) specifically led to a qualification in OH identified in Namibia, with two other degree programs related to OH (public health and epidemiology). The baseline data collection has shown limited OH-specific degree programs or courses in Namibia; however, academic institutions plan to offer a PG Diploma and MSc in One Health, in addition to short course integration over the next 5 years.

Implementation

The importance of OH is gaining significant recognition throughout the country. The recent Media Science Café, organized by the Namibia project team, received overwhelming support from journalists, indicating a strong desire for OH-related information. This highlights the need to promote OH activities extensively. The World Rabies Day celebrations, led by the MAWLR DVS, praised the country's efforts to raise awareness of OH across different sectors (Fig. 6). While the ministry focused on rabies, the involvement of key ministries such as MOHSS and MEFT showcased a positive collaboration and progress in the right direction. However, there was limited feedback in the BKII, FGD, and from the desktop review to show any other examples of OH implementation happening in Namibia at the time of the study.

Fig. 6. World rabies day.

An example of implementing an OH approach is Namibia's approach to rabies. The country is facing a serious problem with rabies, especially in the NCAs that include eight regions. The MAWLR, MOHSS, and MEFT collaborated to develop a National Rabies Control Strategy in 2015 to address this issue. The goal of this initiative was to eliminate dog-mediated human rabies in the country and support the global strategy of zero human rabies deaths by 2030 (Freuling *et al*., 2023). The World Organization for Animal Health (WOAH) endorsed Namibia's Official Control Programme for Rabies in 2021. The Directorate of Veterinary Services is implementing this program to control and eliminate dog-mediated rabies (Fig. 7).

In 2021, the Ministers of MAWLR, MOHSS, and MEFT came together to sign a powerful statement, demonstrating Namibia's strong commitment to eliminating rabies. This effort is fully aligned with the global Strategic Plan for eliminating dog-mediated rabies by 2030 and is being executed through a multi-sectoral OH Approach. This involves the collaborative efforts of relevant ministries and stakeholders. The Ministry of Education, Arts, and Culture has also assumed a vital role in educating learners and working closely with the MAWLR and MOHSS to raise awareness about rabies within educational institutions.

The National Rabies Control Strategy has led to remarkable advancements in disease management among pets and livestock. The initiative has yielded encouraging results by organizing mass vaccination drives for dogs and educating schoolchildren in rural areas who are most at risk of dog bites. Additionally, trainers of Life Skill Teachers and Principals in the NCA were equipped with the knowledge to educate children and their families on protecting themselves against dog bites, preventing rabies, and ultimately saving lives. As a result, schools have produced 'rabies ambassadors' who actively participate in awareness and

Fig. 7. Rabies advocacy pamphlet from shared One Health efforts between government and private sectors to end rabies transmission to humans (© DVS, 2023).

vaccination campaigns, making it a cost-effective approach with a wider outreach. Through these efforts, the disease has been controlled at its source, leading to a significant reduction in human deaths and casualties.

In a concerted effort to raise awareness of rabies in Namibia, the Directorate of Veterinary Services (DVS) partnered with the Global Health Protection Programme (GHPP), which is sponsored by the German Federal Ministry of Health, to create the country's first-ever video on the topic. The video was carefully developed in collaboration with three key ministries and provided valuable information on the disease and its impact within Namibia.

On 28 September 2023, the MAWLR, in collaboration with the MOHSS and the MEFT, organized a rabies awareness day under the theme 'All for 1, One Health for All' at the Katutura UN Plaza. They extended invitations to the local councillor, external partners, academia, A Shipena High School, members of the public, all other relevant stakeholders, and media for the launch of Namibia's first-ever Rabies Awareness video (Available at: https://www.youtube.com/watch?v=FTDThzJXHKU, accessed 25 January 2024). This launch was a significant milestone in the country's journey towards eradicating rabies, demonstrating the power of combined efforts that prioritize the health of citizens, the well-being of animals, and the preservation of the environment. Simultaneously, other awareness and vaccination activities took place in all other regions of the country on that day and the following week.

Another key thematic area for OH implementation in Namibia is the Antimicrobial Microbial Resistance (AMR) surveillance focusing on AMR activities under the Namibian National Action Plan (NAAP). This activity was achieved as a result of the collaboration between the three ministries (MoHSS, MAWLR and MEFT). (FAO, 2017). Under one of the GHPP pillars, a second National AMR stakeholder meeting and workshop was successfully conducted on 20–21 April 2023 in Windhoek, Namibia, to:

1. Review of Tripartite AMR activities and national AMR evaluation tools.
2. Assessment of the current national and regional AMR landscape.
3. Exploration of synergies and collaboration opportunities between stakeholders for defined workstreams.
4. Evaluation of the implementation status of the NAAP activities related to Namibia's NAAP on AMR.

Net-mapping

Stakeholders who participated in the net-mapping indicated the need to broaden the scope of the OH office beyond zoonoses. This should incorporate other areas such as AMR, food and feed safety, vector-borne diseases, and environmental contamination, with increased multisectoral collaborations on ecosystem health activities. 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, 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 the 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. Country 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 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. Institutionalization is vital for this office to receive direct funding.

Synergies with other OH activities in the country

There seems to be a lack of coordination in how OH activities are carried out in Namibia. For example, the University of Namibia is working towards establishing an OH centre of excellence with the support of the Robert Koch Institute, while Africa CDC and FAO are supporting NAMPHI activities, and FLI and Global Alliance for Rabies Control are supporting the rabies OH agenda. COHESA also provides OH capacitation, with some activities focused on developing the OH framework. Despite this, COHESA's efforts have brought together fragmented sections to jointly create the OH agenda, as seen when MOHSS approached COHESA and FAO to collaborate on tackling OH framework activities. If all institutions were to combine their resources and prioritize tasks, the OH agenda in the country could make significant strides forward.

Project Outlook/Conclusions

The success of COHESA is crucial for ensuring a predictable future. If the piecemeal approach is not addressed, it could result in fragmented approaches, missed synergies, resource wastage, increased health risks, and diminished global health security in the country. Fortunately, COHESA has received the necessary support, so an OH institute will be established to close most of these gaps adequately. Through this linkage, the Namibia Project team works closely with stakeholders, spearheaded by the government's three key OH players. The government institutions are MoHSS, the MEFT, and the MAWLR. These three ministries work together to address certain issues through the OH approach, but the elements of collaboration, multi-sectoral, and transdisciplinary approaches are not yet strong. These elements need strengthening to attain optimal health outcomes for Namibia's people, animals, plants, and their shared environment.

In recognition of the above, the NAPHS was launched in December 2020. The NAPHS is based on the OH approach to prevent, promptly detect, and effectively respond to human, animal, and environmental public health threats. The NAPHS considers guiding principles and core values, including resilience, country ownership and leadership, community engagement, partnership, and inter-sectoral and multi-disciplinary collaboration, leading to the establishment of an OH platform in the country.

To better coordinate OH issues in the country, the MoHSS spearheaded the establishment of a NAMPHI. In February 2023, the MoHSS organized an OH stakeholder advocacy meeting to enhance a multi-sectoral coordination mechanism. Further actions by the MoHSS, supported by COHESA Namibia and various stakeholders, are developing the OH strategic plan and the tripartite Memorandum of Agreement (MoA) between the three key ministries mentioned above. The development of the strategic plan is part of the COHESA multiplier's current OH capacitation activities, and it has participated fully in developing the OH country Strategic Plan, which will be validated in February 2024.

Group Discussion Questions

1. How can we improve OH workforce, academia, and government staff comprehension of the interconnectedness of human, animal, plant, and environmental health to foster a more cohesive approach to One Health?

2. How can leadership dynamics be restructured to bridge the divides between ministries, academia, and other stakeholders to achieve effective collaboration in One Health?
3. How can we enhance resource allocation to break down current silos and promote collaboration between ministries, academia, and external donors?
4. What steps can be taken to enhance communication strategies, eliminate silos, and ensure proper information flow among One Health stakeholders?
5. What measures can be taken to build collaborative capacity across ministries, academia, and external supporters to bolster One Health initiatives?

Conflict of interest

The authors declare no conflicts of interest.

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Further Reading

The National Action Plan for Health Security Document is an Important Read, Available at: National Action Plan for Health Security (NAPHS), Strategic Partnership for Health Security and Emergency Preparedness (SPH) Portal (who.int).

References

Aiken, D. (2018) Progress Towards Addressing Health Challenges and Inequity in Namibia – O'Neill: O'Neill. Available at: https://oneill.law.georgetown.edu/progress-towards-addressing-health-challenges-and-inequity-in-namibia/ (accessed 05 December 2023).

Dhlamini, M. (2022) Lifting of FMD Ban Welcomed – The Namibian. Available at: https://www.namibian.com.na/lifting-of-fmd-ban-welcomed/ (accessed 20 November 2023).

FAO (2017) *Namibian Antimicrobial Resistance National Action Plan (NAAP)*. FAOLEX. Available at: https://www.fao.org/faolex/results/details/en/c/LEX-FAOC221888 (accessed 10 January 2024).

FAO (2023) FAO Enhances Namibia's Efforts to Control CBPP Outbreaks, FAO in Namibia, Food and Agriculture Organization of the United Nations. Available at: https://www.fao.org/namibia/news/detail-events/en/c/1658866/ (accessed 10 January 2024).

Freuling, C.M., van der Westhuizen, J., Khaiseb, S., Tenzin, T. and Müller, T. (2023) From field tests to molecular tools – Evaluating diagnostic tests to improve rabies surveillance in Namibia. *Viruses* 15(2), 371. DOI: 10.3390/V15020371/S1.

Green, R.H. (2023) *Namibia, History, Map, Flag, Population, Capital, & Facts, Britannica*. Encyclopaedia Britannica. Available at: https://www.britannica.com/place/Namibia.

Klintenberg, P. and Seely, M. (2004) Land degradation monitoring in Namibia: A first approximation. *Environmental Monitoring and Assessment* 99(1–3), 5–21. DOI: 10.1007/S10661-004-3994-6/METRICS.

Knight-Jones, J.C.A.K.M. (2021) *Overview of the Capacitating One Health in Eastern and Southern Africa (COHESA) Project*. ILRI Available at: https://www.ilri.org/index.php/knowledge/publications/overview-capacitating-one-health-eastern-and-southern-africa-cohesa-project (accessed 12 December 2023).

OECD and FAO (2021) Building Agricultural Resilience to Natural Hazard-induced Disasters. *Building Agricultural Resilience to Natural Hazard-Induced Disasters.* DOI: 10.1787/49EEFDD7-EN.

Richardson, J.A. (1998) Wildlife utilization and biodiversity conservation in Namibia: Conflicting or complementary objectives? *Biodiversity and Conservation* 7(4), 549–559. DOI: 10.1023/A:1008883813644/METRICS.

Staff Reporter (2018) *Animal Diseases Still Taking Toll on Livestock, Wild Life – Truth, for Its Own Sake*. Newera Available at: https://neweralive.na/posts/animal-diseases-still-taking-toll-on-livestock-wild-life (accessed 25 November 2023).

Thieleke-Matos, C., Endjala, N., Nepolo, E., Winter, C., Nowaseb, V. *et al*. (2022) Establishment of the Namibian National Public Health Institute: laboratory systems strengthening. *European Journal of Public Health* 32(Supplement_3). DOI: 10.1093/EURPUB/CKAC131.033.

WHO (2021) International Health Regulations Focal Point Network in Namibia, WHO, Regional Office for Africa. Available at: https://www.afro.who.int/news/international-health-regulations-focal-point-network-namibia (accessed 12 February 2024).

WHO (2023) Namibia Launched the National Action Plan for Health Security (NAPHS), WHO, Regional Office for Africa. Available at: https://www.afro.who.int/news/namibia-launched-national-action-plan-health-security-naphs (accessed 12 February 2024).

Worldometer (2023) Namibia Demographics 2023 (Population, Age, Sex, Trends) – Worldometer. Available at: https://www.worldometers.info/demographics/namibia-demographics/ (accessed 10 December 2023).