Migrant workers and zoonotic health inequalities in the livestock production sector

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This working paper highlights the urgent need to address the risk of zoonoses—diseases transmissible between animals and humans—to migrant workers in the livestock product value chain, arguing for the inclusion of migrants into evidence-building and actions for multilevel and interdisciplinary zoonotic disease prevention and control.

BACKGROUND

The COVID-19 pandemic, the escalating outbreaks of Avian Influenza, and the global spread of monkeypox have drawn attention to the risk of zoonotic diseases to global health, with 75 per cent of newly emerging human pathogens originating in animal species.[2] Infectious diseases, and zoonoses in particular, exert significant pressure on the agri-food industry, including the livestock production sector. Numerous reports highlighted the disproportionate burden of COVID-19 to workers in the meat-processing industries across Europe and the United States as a result of sub-standard and unsanitary working and living conditions.[3] In response to this significant risk to public health,

[1] Image generated using the OpenAI, *DALL-E,* 2023 (https://labs.openai.com)
[2] WHO, Zoonotic disease: emerging public health threats
[3] Finci et al, 2022. Risk factors associated with an outbreak of COVID-19 in a meat processing plant in southern Germany, April to June 2020, Eurosurveillance 27 (13); Herstein et al, 2021, Characteristics of SARS-CoV-2

elsewhere the livestock production industry took strict measures to prevent similar transmission in meat-processing plants through sanitation and physical distancing measures.[4]

Vulnerabilities to infectious diseases, including zoonoses, not only depend on the prevalence of pathogens, but importantly on social determinants of health, such as poverty, living and working conditions. One group particularly at risk are labour migrants, many of whom are employed in precarious jobs in the livestock production industry, a sector often considered undesirable by local workers. Demanding global action, we highlight the issue using a case study from Thailand, a country highly dependent on migrant workers, and at considerable risk of zoonotic disease outbreaks due to ecological changes as a result of disasters and urbanization, as well as wildlife trafficking.[5]

CASE STUDY: THAILAND

At the beginning of 2022, there were an estimated 3.9 million regular and irregular migrant workers employed in Thailand, the majority from neighbouring countries Cambodia, Lao People's Democratic Republic, Myanmar, and Viet Nam.[6] Many of these migrants work in the agricultural sector, which employs approximately 30 per cent of Thailand's total labour force.[7] Faced with labour shortages, intensive factory farms in Thailand in particular, recruit both irregular and regular low-paid migrant workers from the Mekong delta region.

Increased global mobility intersects with the increased risk of infectious diseases as a result of disasters and conflict, particularly affecting the most vulnerable migrants lacking primary health care and protection. As poverty forces people to migrate, they may face novel diseases in their changing living and working environment.[8] Meanwhile, labour migrants often lack access to primary healthcare facilities[9] and health insurance[10], while migrant and mobile population groups are largely excluded from regional and national infectious disease preparedness and response plans.[11]

As a result, migrants are affected most severely by health threats, as well as gaps in public health responses. For instance, global, regional, and national COVID-19 lockdowns not only affected mobility, but also caused livestock product supply chains to collapse due to decreased demand as out-of-home consumption decreased. Public health responses may also be detrimental to livelihoods, nutrition, and educational outcomes, with only limited beneficial impact on health.[12] New insights show that the negative impacts of lockdowns and movement restrictions were exacerbated among populations dependent on freedom of movement and global supply chains. Export and import limitations and

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Transmission among Meat Processing Workers in Nebraska, USA, and Effectiveness of Risk Mitigation Measures, Emerging Infectious Diseases 27 (4); Pokora et al, 2021, Investigation of superspreading COVID-19 outbreak events in meat and poultry processing plants in Germany: A cross-sectional study, PLOS ONE 16 (6)

[4] CPF Worldwide, 2020. Thai meat producers remain on guard against Covid-19

[5] UNODC, 2022. Expert meeting on zoonotic diseases linked to wildlife crime

[6] IOM, 2022. Thailand Social Protection Diagnostic Review: Social Protection for Migrant Workers and Their Families in Thailand

[7] ILO, 2022. Working and employment conditions in the agriculture sector in Thailand

[8] Braam et al, 2021. Identifying the research gap of zoonotic disease in displacement: a systematic review, Global Health Research and Policy 6 (25)

[9] World Bank, 2020. Potential Responses to the COVID-19 Outbreak in Support of Migrant Workers

[10] Legido Quigley et al, 2019. Healthcare is not universal if undocumented migrants are excluded, BMJ

[11] Wickramage et al, 2018. Missing: Where Are the Migrants in Pandemic Influenza Preparedness Plans? Health and Human Rights 20 (1)

[12] Braam et al, 2021. Lockdowns, lives and livelihoods: the impact of COVID-19 and public health responses to conflict affected populations - a remote qualitative study in Baidoa and Mogadishu, Somalia, Conflict and Health 15 (47)

movement restrictions affected the livelihoods of migrant communities and those left behind, as remittances dried up through the closure of industries, return and onward migration.

LIVESTOCK PRODUCTION, ZOONOSES AND ONE HEALTH

Although the COVID-19 pandemic affected the entire livestock product supply chain, from livestock rearing to processing and retail, small-scale livestock processing plants showed lower infection rates than intensive livestock production farms.[13] This might be a result of better environmental health and animal welfare, as well better working conditions generally provided by smaller scale livestock production facilities. While addressing the risk of zoonotic disease transmission among migrant workers, it is therefore essential to use a systems-thinking approach to health and labour protection.

One such approach is the One Health perspective, acknowledging the interconnectedness of human, animal, and environmental health, allowing for a more interdisciplinary consideration of health. The One Health framework provides a more comprehensive approach to zoonotic disease risk among migrant workers in the livestock production sector, acknowledging the intersecting social determinants of health affecting the most vulnerable migrant- and other marginalized groups (Figure 1).

Figure 1: Intersections and determinants (socio-cultural, market based, genetic) of livestock production-zoonoses-labour migration nexus (image by KW)

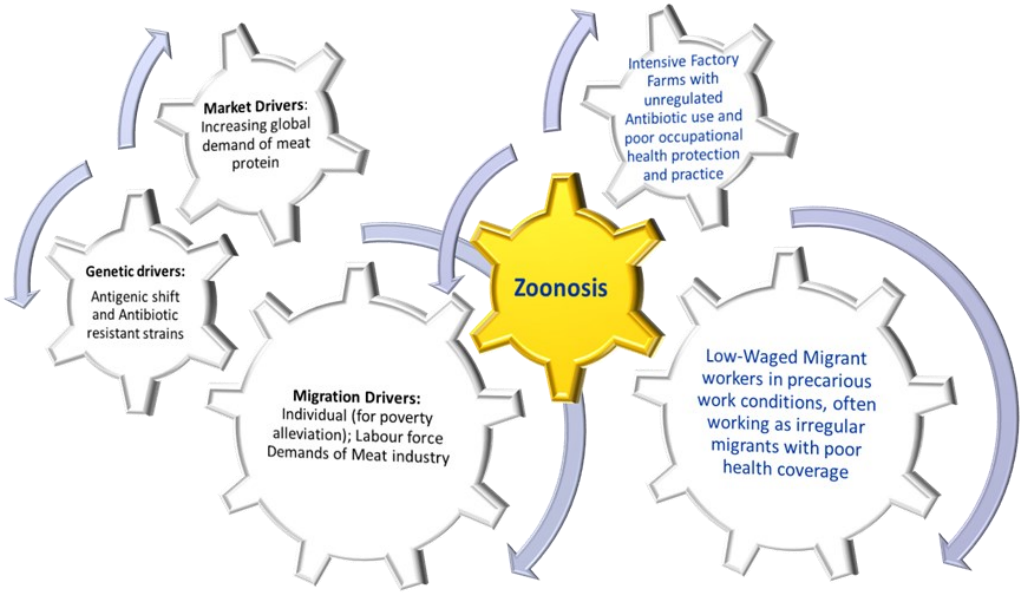

Figure Notes: The complexities of the livestock production-zoonoses-labour migration are represented by the arrows and moving gears. An increase in factory farms means there is a demand for migrant workers, and thus increases the risk of exposure to infected animals.

As climate change, disaster and conflict are projected to further increase mobility of human and animal populations, adopting the One Health approach is important to those migrants employed in the livestock production industry, where the risk of zoonoses is arguably most severe.[14] A recent publication on the One Health - Joint Plan of Action highlights the importance of "promoting a shared

[13] Taylor et al, 2020. Livestock plants and COVID-19 transmission, Economic Sciences
[14] Marchese and Hovorka, 2022. Zoonoses Transfer, Factory Farms and Unsustainable Human–Animal Relations

and better understanding of the health threats posed by unhealthy environments to wildlife, livestock and people" as well as engaging in collaborative cross-sector partnerships, and adopting policies, legislation and practices for sustainable environmental management, that can support healthy communities and ecosystems.[15]

While One Health is increasingly adopted by scientists and practitioners to implement projects in zoonotic disease prevention and control across regions, there are significant differences in policy responses among countries. In the Asia Pacific region, few countries have adopted comprehensive intersectoral policies. Frontrunner in the region is Thailand, which included One Health in its national strategic plan for emerging infectious diseases.[16] The plan includes specific reference to, and strategies designed for migrants, which are recognized to be at higher risk of contracting diseases 'due to their marginalized access to health information'.

EVIDENCE AND POLICY GAPS

Among academia, initiatives such as the Southeast Asia One Health University Network (SEAOHUN) aim to improve international collaboration and cooperation, although migration and human mobility are not well-represented in the data collection and research agenda. Furthermore, routine health information systems do not capture data by migrant status, therefore true impact of pandemics, and general burden of diseases across migrant categories are not known. The evidence gaps on the interconnectedness of labour migration and global health security, reduce the effectiveness of policy and programme development and implementation. Stakeholders have highlighted the urgent need for quality research on international and domestic (in-country) migration and health to support efforts to achieve the Sustainable Development Goals (SDGs).[17] To develop comprehensive migrant-centred policies and programmes for zoonotic disease prevention, preparedness and control, there is a need to collect and/ or collate relevant and contextualised data to better understand the unique challenges facing migrant workers. This includes information on their working and living conditions, as well as zoonotic disease outbreaks, which are currently either missing or held by different stakeholders across sectors.

CONCLUSION

The pandemic exposed the link between employment and labour challenges in the livestock product supply chain and zoonoses, primarily affecting socio-economic marginalized producers and workers, including migrant communities. To improve zoonotic disease mitigation and the general wellbeing of migrants, below key recommendations need to be considered by policy makers and responders.

[15] FAO, UNEP, WHO, and WOAH, 2022. One Health Joint Plan of Action (2022-2026). Working together for the health of humans, animals, plants, and the environment. Rome. https://doi.org/10.4060/cc2289en
[16] Sommanustweechai et al, 2017. Adoption of One Health in Thailand's National strategic plan for emerging infectious diseases, Journal for Public Health Policy 38
[17] Wickramage et al, 2018. Migration and health: a global public health research priority, BMC Public Health 18

KEY RECOMMENDATIONS

Building the evidence base

- Enhance the evidence base on the migration – zoonoses nexus to better inform policies and programmes, through literature reviews and empirical studies;
- Collect and/ or collate quantitative and qualitative data on migrant workers in the livestock production sector regarding health, working conditions, disaggregated by age and gender, in particular data on zoonotic disease outbreaks among migrant workers.

Developing policies

- Adopt a migrant-centred human rights-based approach, involving migrants and host communities in the development of research studies, policy and programmes for zoonotic disease prevention and control;
- Conduct country situational and stakeholder assessments to enable the provision of concrete, contextualised policy, and programme responses.

Programme implementation

- Canvas regional/sub-regional consultative processors (be it from economic cooperation, trade, labour migration and health security) to prioritize action on zoonotic disease prevention and control related to migration. Examples within region are Association of Southeast Asian Nations (ASEAN)[18], The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC);
- Build capacity to enable member states and other governments to enhance sustainable evidence collection and developing comprehensive policies using systems thinking and a One Health approach. This may manifest in inclusion of migration variables within disease surveillance and control programs with requisite data protection and ethical measures;
- Involve the private sector and industry groups such as Agriculture, Animal Husbandry that employ large numbers of migrant workers through tripartite initiatives to address zoonotic disease risks among migrant workers in the livestock production sector. Ensuring occupational health and safely and inclusion of migrant workers in such sectors within national and subnational pandemic preparedness and response plans, irrespective of their migrant status is also critical.

[18] https://asean.org/asean-leaders-declaration-on-one-health-initiative/