

Strategies to Prevent (STOP) Spillover

An Exploration of Factors Contributing to Failure and Success of Previous Interventions to Improve Biosecurity and Biosafety in Live Bird Markets of Bangladesh

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Background

- Live bird markets (LBMs) have been identified as high-risk interfaces for avian influenza transmission
- Despite significant efforts and investments, biosecurity and hygiene conditions of the LBMs in Bangladesh have not improved over time
- We explored factors contributing to success and failure of previous interventions to improve biosecurity and biosafety in LBMs of Bangladesh

Methods

Timeline: December 2022 to June 2023

Date Collection

- **To explore implementation challenges:** In-depth interviews (29) group discussions (3) with implementers, evaluators and experts [Figure 1]
- **To explore compliance challenges**
 - Group discussions (6) with market committee members, shop owners and workers [Figure 2]
 - Informal conversations and observations (19) at previously intervened LBMs [Figure 3 and 4]



Figure 1: In-depth interview with an implementer

Figure 2: Group discussion with market members



Figure 3 & 4: Current biosecurity condition at previously intervened LBMs

Results

A total of **15 interventions** were identified being implemented **during 2005–2023**, with durations ranging from two months to 6.7 years (mean 2.4 years) [Figure 5].

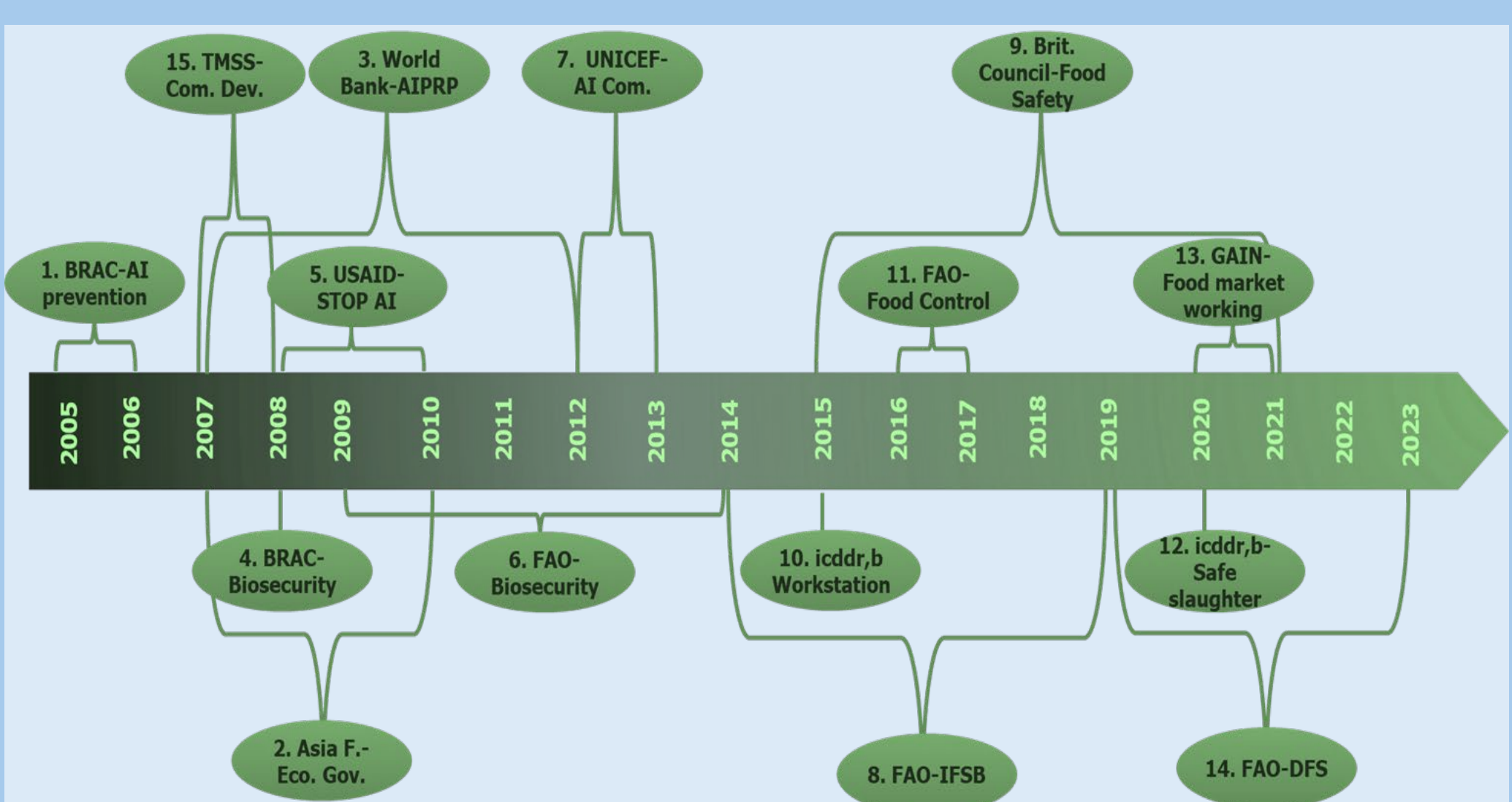


Figure 5: Timeline of interventions implemented in the LBMs of Bangladesh

Results (cont..)

Interventions included renovating infrastructure, distributing equipment/materials, raising awareness and engaging communities (Figure 6, 7 and 8).

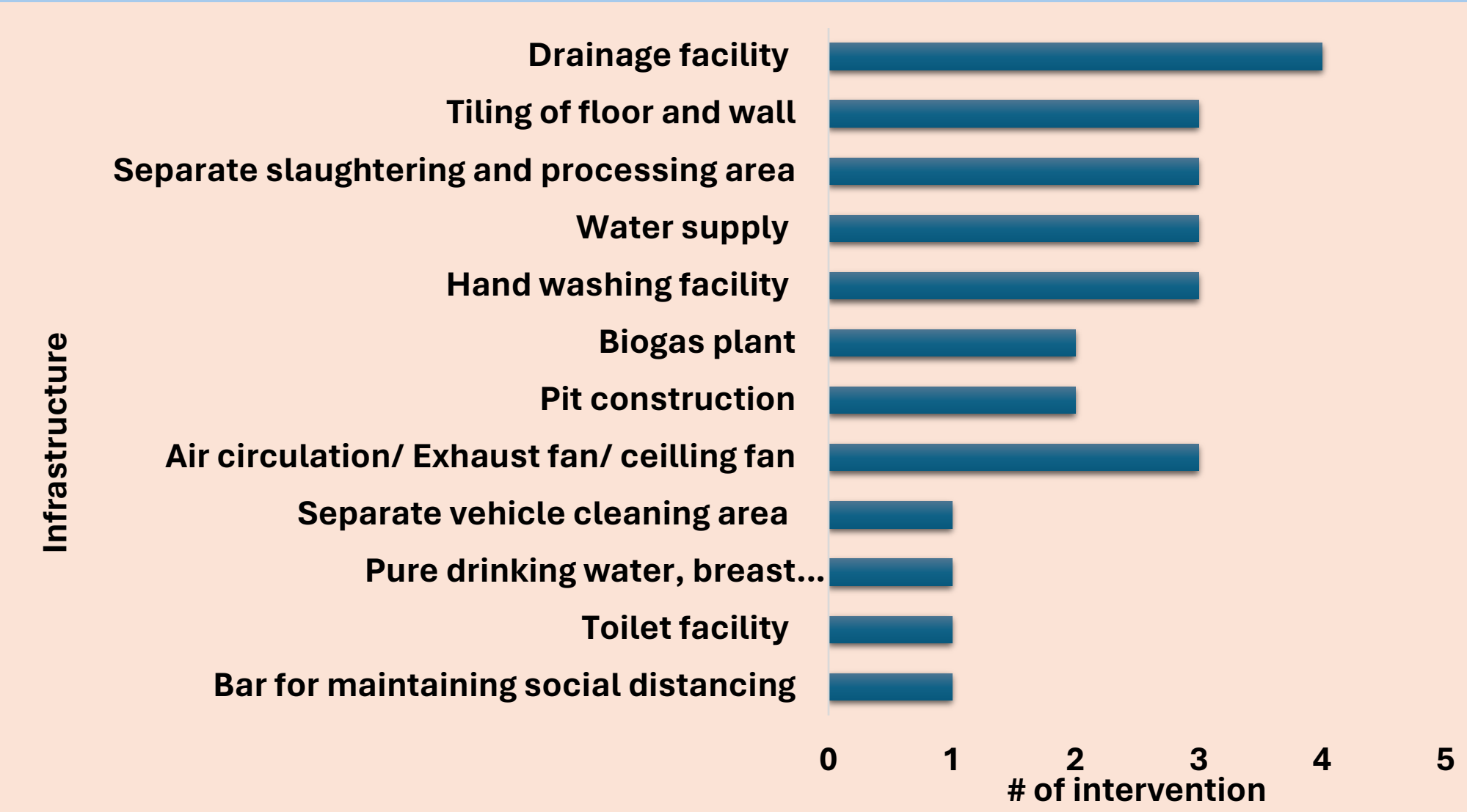


Figure 6: Infrastructural changes implemented in four interventions

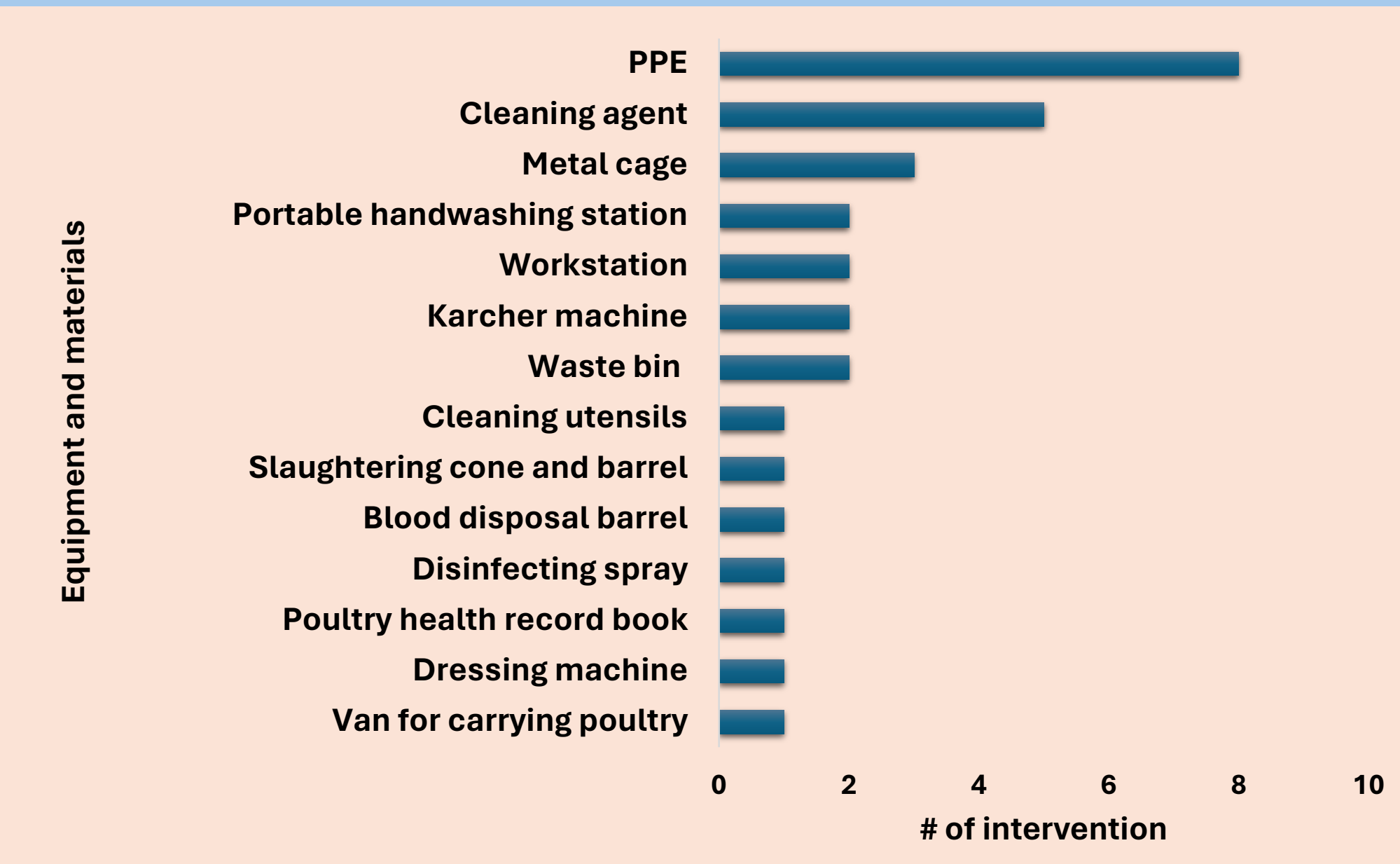


Figure 7: Equipment and materials provided in eight interventions



Figure 8: Recommendations disseminated in 15 interventions

Most interventions did not sustain in the long run



IMPLEMENTER/EVALUATOR/EXPERT

Success: Awareness of LBM actors
Failure: Sustainability, advocacy, waste management
Most important: Advocacy, coordination, monitoring
Barriers: Absence of phase-out plans; lack of ownership, coordination, and resources among govt. stakeholders and market committees; and lack of motivation among govt. stakeholders and policy makers, enforcement and monitoring

"Only raising awareness or implementing infrastructural change would not work. It has to be a combination of all things. Above all, government or City Corporation and poultry shop owners should participate and take responsibilities. NGO or project funding cannot make the changes (sustainable). Then the intervention will die when the project ends." [implementer]

Results (cont..)

Vendors appreciated and sustained only the interventions that aided their daily activities and profit.

"The tray (i.e., workstation) and the dressing machine they provided are very useful... and the cages too, which we have to manage on our own. And we need water and soap to maintain cleanliness. Providing us only with these things suffices. Water, tray and dressing machine are the most required items. We cannot do business without these things." [a vendor]



LBM ACTORS (vendor, market committee member)

Like: Infrastructure (tile, water supply, drainage), equipment (workstation, metal cage)

Dislike: Separate LBM construction and mask

Most Important: Water supply, drainage, metal cage, maintenance costs for C&D

Barriers: Lack of ownership, motivation and resource among market committee, lack of risk perception, motivation, and perceived benefit, financial concern for changes incurring regular cost for maintenance

Conclusions

- For effective behavior change, perceived benefits must outweigh costs
- Biosecurity and biosafety practices should be normalized into daily routines
- Associated roles and costs should be integrated into policies, budgets and job responsibilities in the government system
- These findings informed the development of a holistic LBM intervention to be evaluated in for risk reduction and sustainability.

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