



ISAP 2020

International Forum for Sustainable Asia and the Pacific

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Decentralised Wastewater Management Approach for Environmental Sustainability in the Post COVID-19

12th November 2020

12:30 - 14:00 (GMT+09:00)

Sustainable wastewater management in Indonesia's fish processing industry: bringing governance into scenario analysis

Adriana Gómez-Sanabria
Research Scholar

International Institute for Applied Systems Analysis (IIASA)

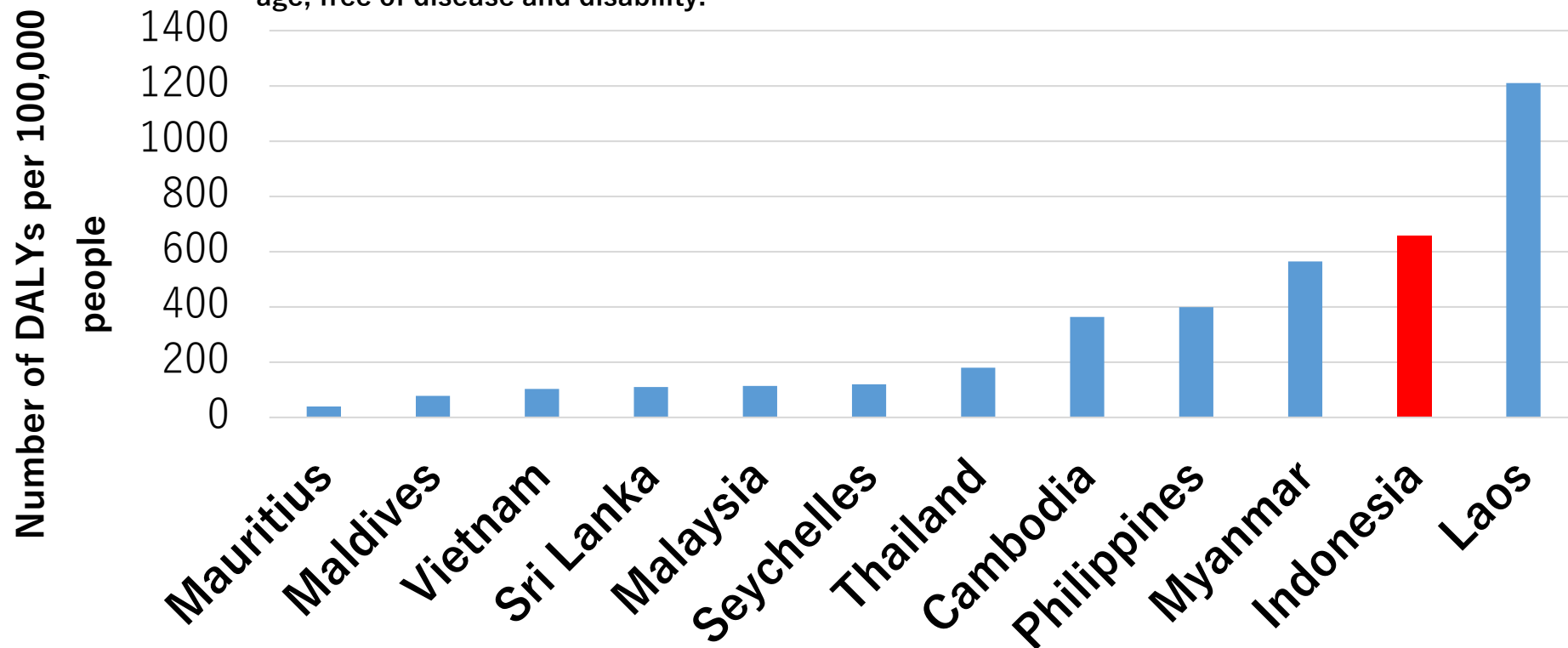
Eric Zusman
Research Director

Institute for Global Environmental Strategies (IGES)



Polluted water can cause disease and early death

One DALY is one lost year of a "healthy" life. The sum of DALYs across the population is a measurement of the gap between current health status and a situation where the entire population lives to an advanced age, free of disease and disability.



Source: Global Burden of Disease Study 2017



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Wastewater from Fish Processing Industry

Source: Soedjono, 2011



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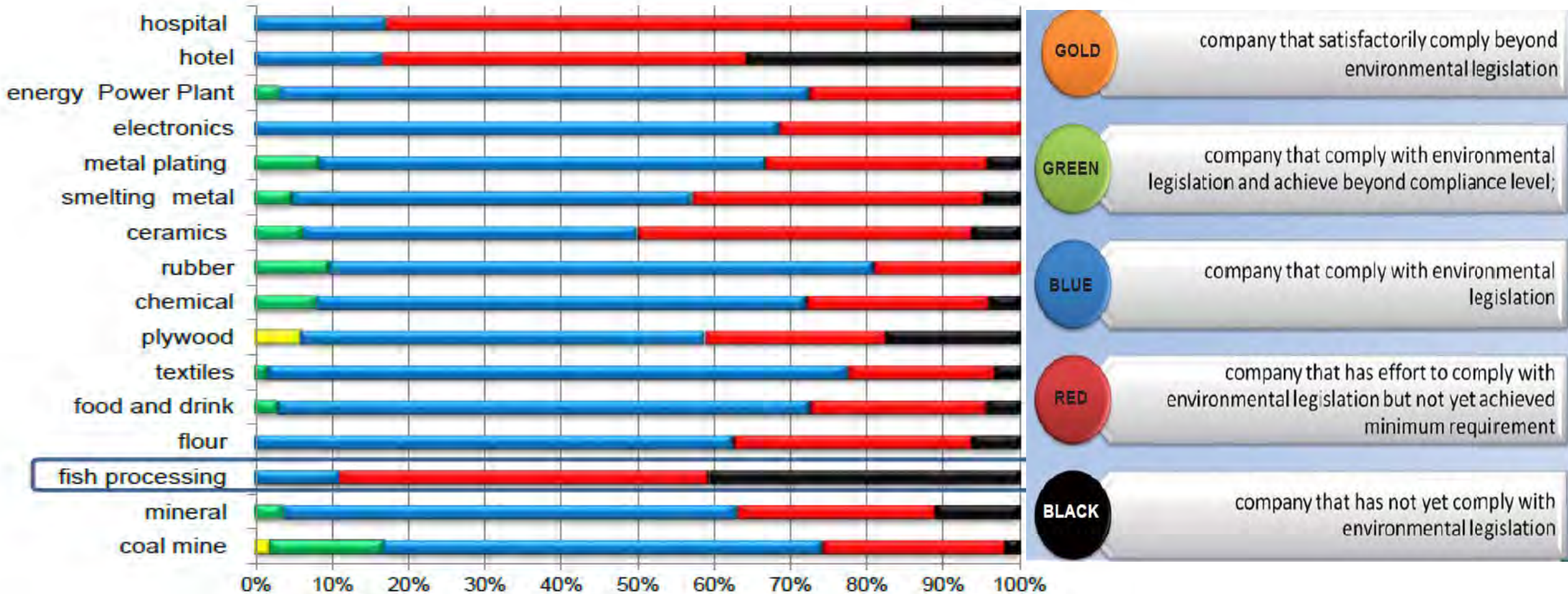


Source: Buchary, Pitcher, Sumaila, 2011



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Integrating Governance into Co-Benefits Modeling



More fish, less energy, less pollution – but only if all players cooperate

Nov 21, 2019 | Air Pollution, Environment, Food & Water, Indonesia, Women in Science

By Adriana Gómez-Sanabria, researcher in the IIASA Air Quality and Greenhouse Gases Program

Adriana Gómez-Sanabria discusses the results of a new study that looked into the impacts of implementing various technologies to treat wastewater from the fish processing industry in Indonesia.

To reduce water pollution and climate risks, the world needs to go beyond signing agreements and start acting. Translating agreements and policies into action is however always much more difficult than it might seem, because it requires all players involved to participate. A complete integration strategy across all sectors is needed. One of the advantages of integrating all sectors is that it would be possible to meet different objectives, for example, climate and water protection goals in this case, with the same strategy.

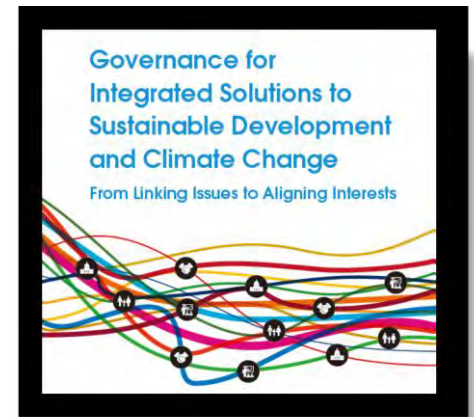
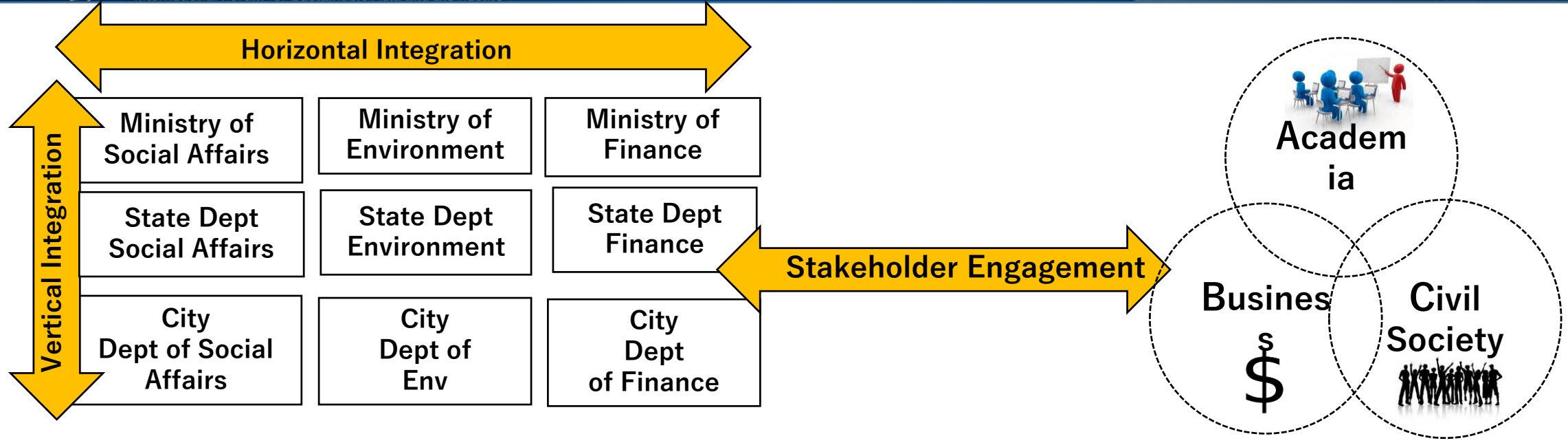


Gómez-Sanabria A, Zusman E, Höglund-Isaksson L, Klimont Z, Lee S-Y, Akahoshi K, Farzaneh H, & Chairunnisa (2019). Sustainable wastewater management in Indonesia's fish processing industry: bringing governance into scenario analysis. *Journal of Environmental Management*.



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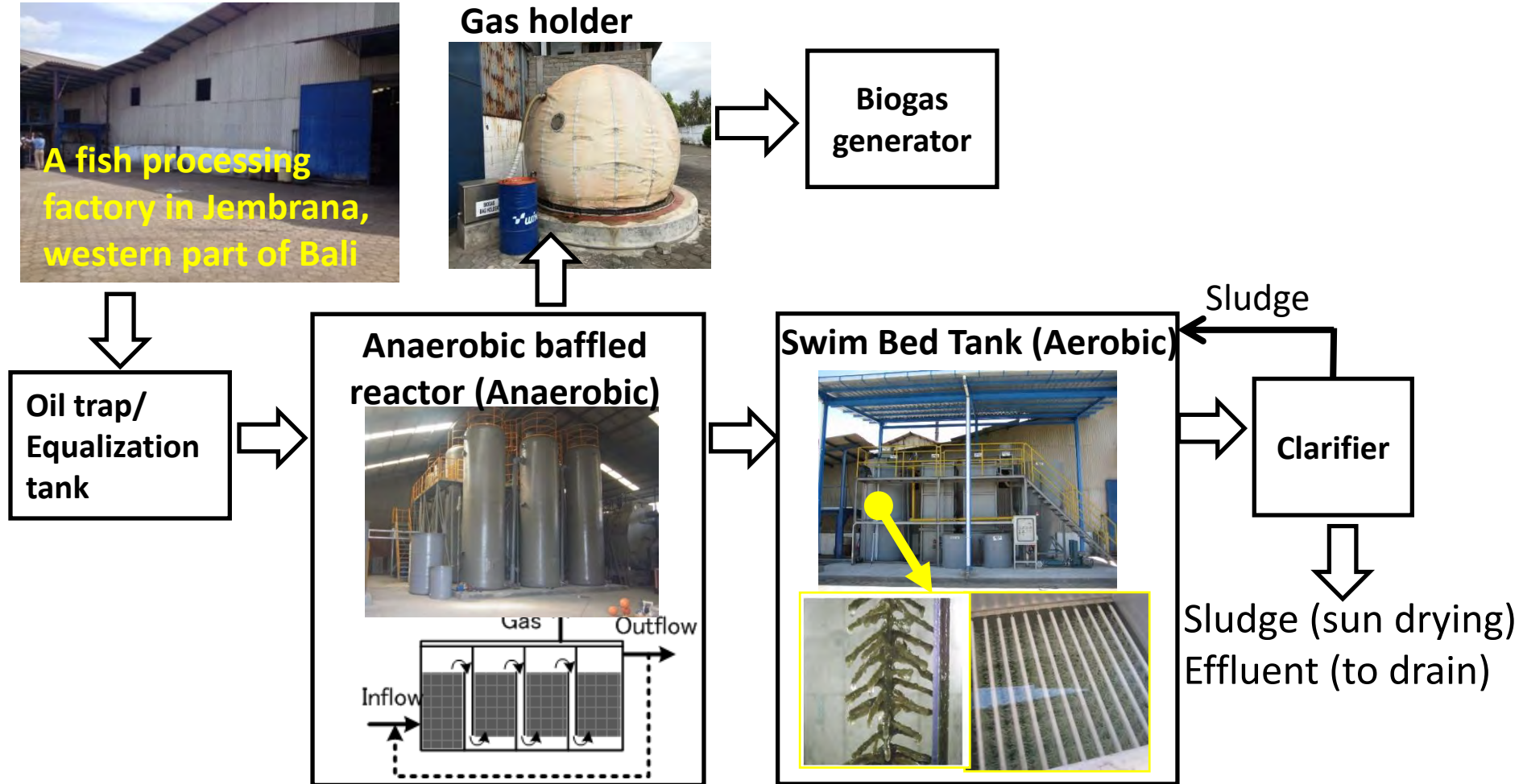
Multi-level, multi-stakeholder governance



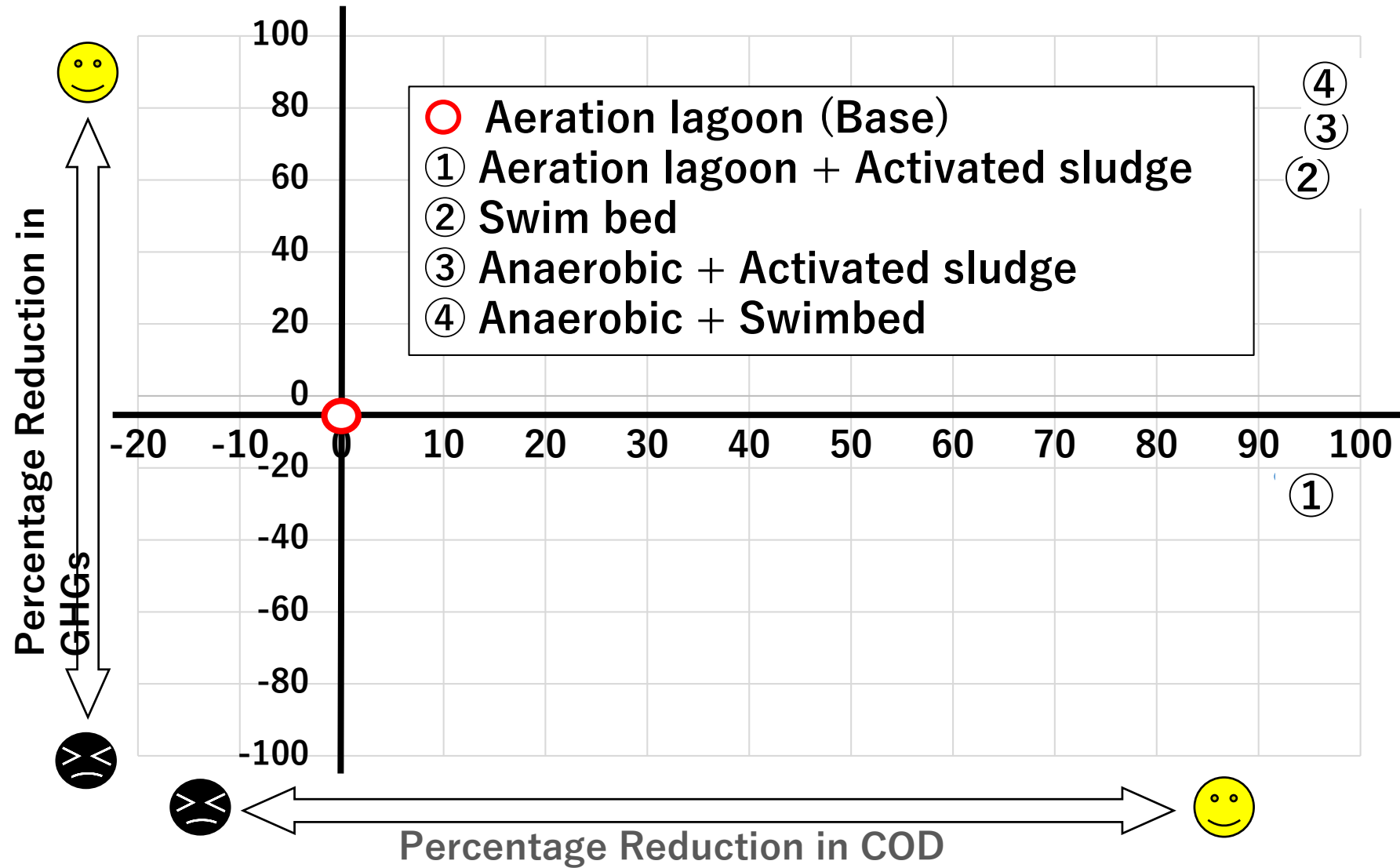
Co-benefits Type Wastewater Treatment at a Fish Processing Factory



A fish processing factory in Jembrana, western part of Bali

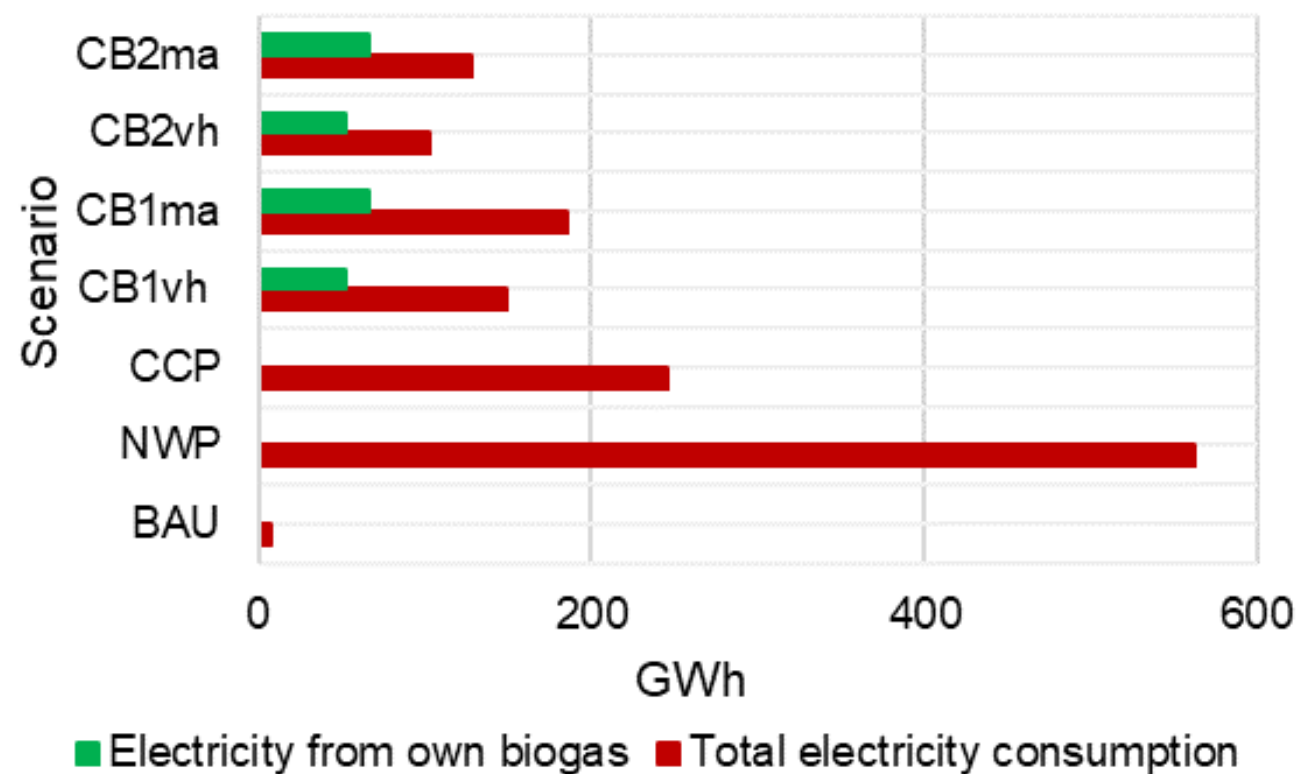


Co-benefits type wastewater treatment will lead to significant reductions in GHG and COD





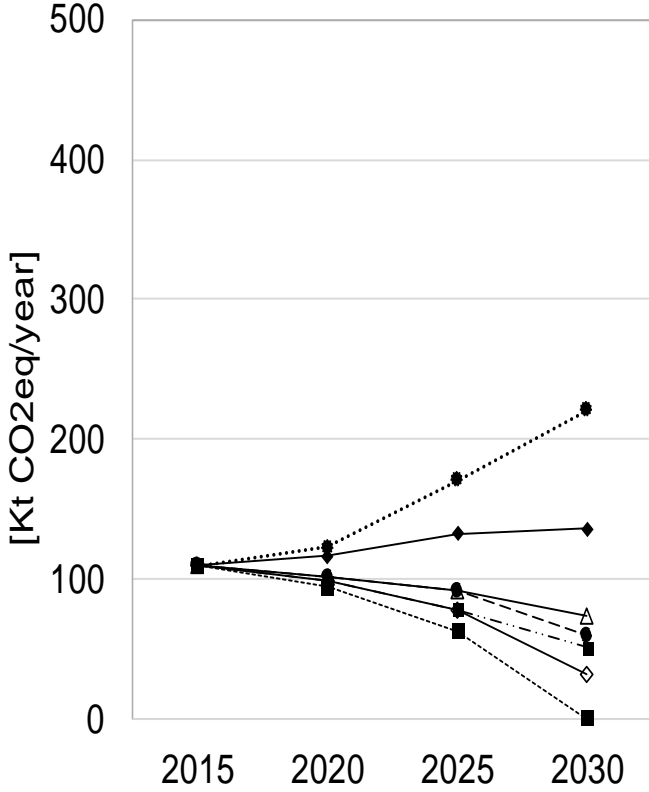
One example of the benefits is own energy generation



Key Result: Capacity without Coordination Can Harm the Climate

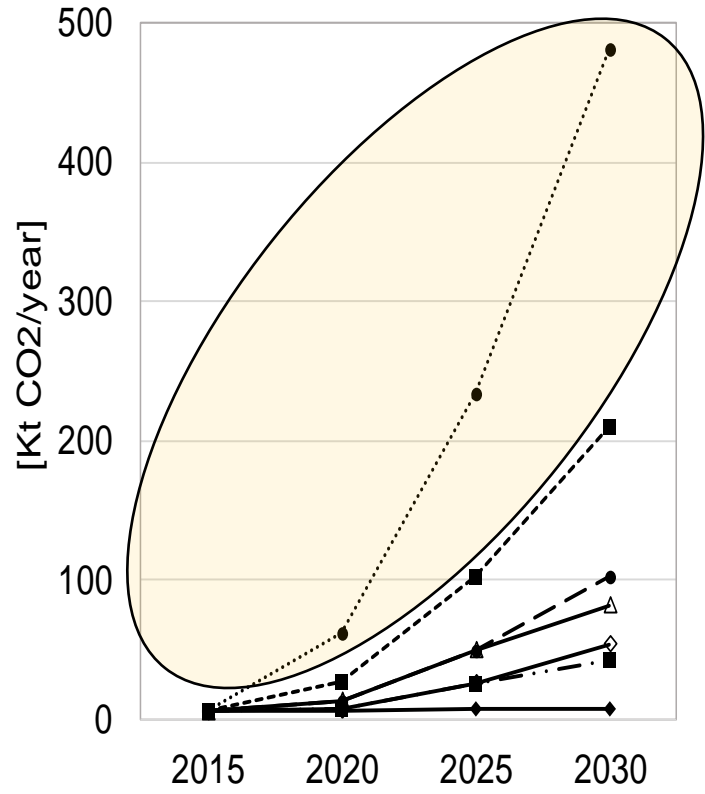
CH4

a.



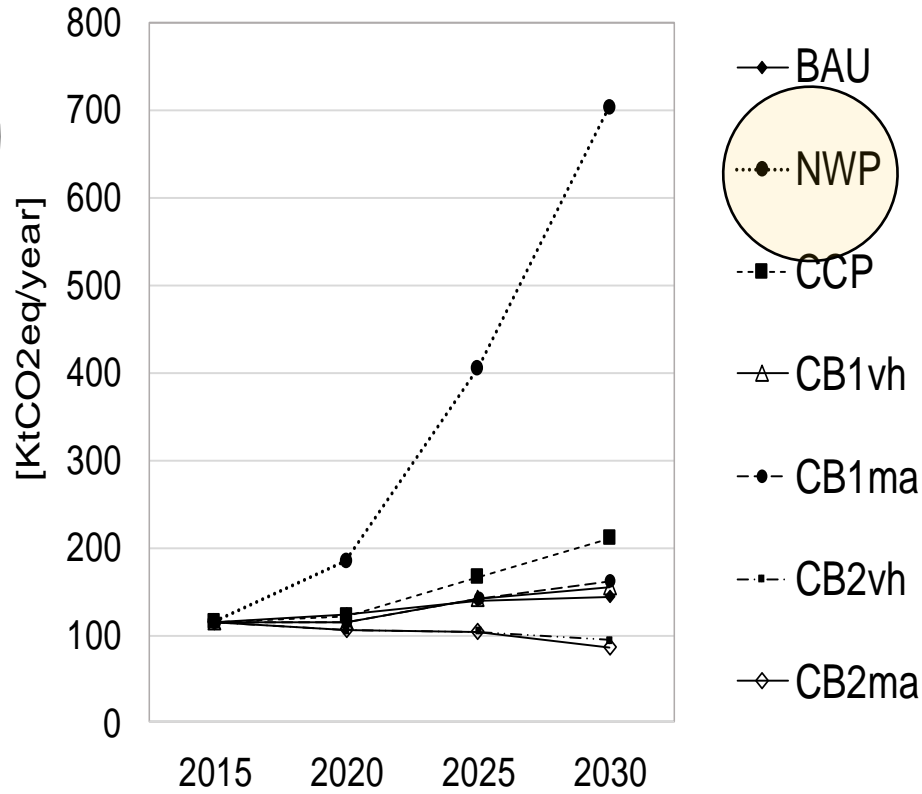
CO2.

b.



Total GHG emissions Indonesia

c.





Highlights:

Treatment focused just on water pollution can cause extra greenhouse gas emissions.

Measures targeting water pollution and greenhouse gases at once are co-beneficial.

The integration of governance is key for the success of co-beneficial measures.

The generation of the biogas is one advantage of co-beneficial measures.



ご清聴ありがとうございました。
Thank you for your attention.