

Health Impacts of Global Pollinator Declines

- Pollinated crops responsible for large share of calories and nutrients in global diet—pollinators declining globally
- At risk populations: near thresholds of deficiency, receive significant nutrients from pollinator-dependent crops
- Low intake of fruits, nuts and seeds, and vegetables are 4th, 12th, and 17th largest risk factors for global burden of disease





Study Design



- What people eat and what is in it
- Pollinator dependence of each food crop
- Scenario analysis for pollinator declines
- EARs for micronutrients and GBD for food groups
- How much is local vs global?

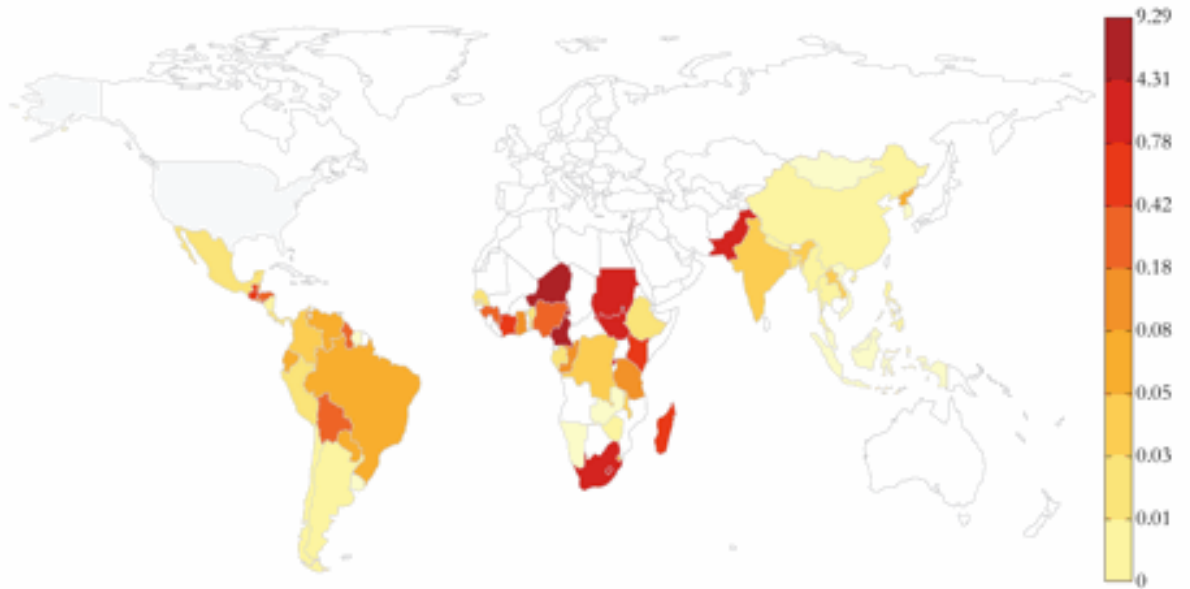




ADDITIONAL HEALTH BURDEN FROM POLLINATOR REMOVAL

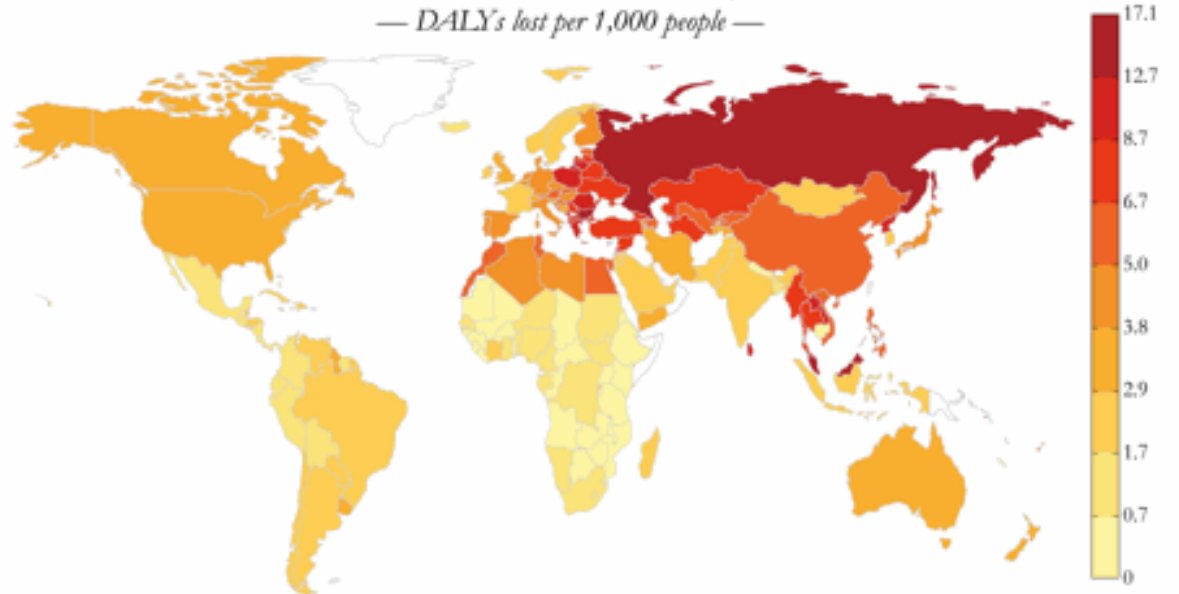
Malnutrition and Communicable Disease

— DALYs lost per 1,000 people —



Non-Communicable Cardiovascular Disease, Cancer & Diabetes

— DALYs lost per 1,000 people —



Smith, MR, Singh, GM,
Mozaffarian, D and
Myers SS. 2015. *The
Lancet*.



Our Findings



- Vitamin A deficiency—71 million
- Folate deficiency -173 million
- Full pollinator service loss: *1.42 million additional deaths per year from non-communicable and malnutrition-related diseases, equivalent to a 2.7% increase in total yearly deaths.*
- 82% of all pollinator-related DALYs that are lost were associated with *indigenous* production.
- Future need: Global Food Security Atlas